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A
TREATISE
OF
ARCHITECTURE,
WITH
REMARKS
AND
OBSERVATIONS.

Neceſſary for Young People, who wou'd apply themſelves to that Noble ART.

By SEB. LECLERC, Knight of the *Empire*, Deſigner *and* Engraver *in* Ordinary *to the* Cabinet *of the* French King.

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BIBLIOTHE[illegible] SCIE[illegible]NA

TO THE READER.

I *Don't here propoſe to treat of all the Parts that belong to* Architecture: *The Mechanical Structure of a Building I paſs over : and am utterly ſilent as to the manner of preparing the Foundations, raiſing the Walls, managing the Carpentry, learning the Nature and Quality of Stones, Woods and Sands ; making of Lime, Mortar and the reſt : theſe being Things quite foreign to my Profeſſion, and which have been already abundantly handled in the Works of* Vitruvius, Palladio, Vignola, Savot, *and ſeveral other Architects ſufficiently known.*

My Deſign in this Work, is to confine my ſelf to what regards the Beauty, the Elegancy, and good

Taſt of the principal Parts in the Compoſition of a noble and graceful Edifice. I lay down Orders of Columns and Pilaſters, in new Meaſures and Proportions, and conſider the other Parts which may accompany thoſe Orders, the Rules and Obſervations to be regarded in aſſembling them together, and the Remarks that appear'd neceſſary to prevent young People from running into certain Errors, pretty frequent in Buildings, and which they might not, perhaps apprehend of themſelves, nor be inform'd of from other Treatiſes; in regard thoſe who have hitherto written of Architecture have not taken the leaſt notice of them, though otherwiſe preciſe enough in matters of little moment.

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The Abbot DE VALLEMONT, in his Panegyrick on *Mr.* LE CLERC; gives the following account of this his Book of Architecture.

IN 1714. *about ſix Months before the fatal Moment which depriv'd us of this great Man, he gave over all thoughts of every thing that bore any relation to Drawing or Engraving; but at the ſame time he did not give over labouring in another kind: For during that time, he publiſhed his* Treatiſe of Architecture, *the Proofs of which paſs'd the Correction of his own Hand. This Work conſiſts of two Volumes in Quarto; the ſecond whereof is wholly Figures. The Exactneſs, that reigns throughout this great Work, very plainly demonſtrates, that there are Perſons who enjoy, as it were, a particular Privilege of Heaven; inſomuch that when Death makes its approaches upon them, they are much leſs ſenſible than other People, of the Infirmities and Weakneſſes which both the Soul and Body, (the Harmony whereof is at that time preparing for a Divorce,) feel, as ſo many certain Tokens of a near Diſſolution.*

Of this Monſieur Le Clerc *appears a bright and eminent Example; if we conſider that ſtrength and vigour of Soul which he muſt exerciſe in carrying on, ſo happily as he did, the Impreſſion of a Book, filled with two hundred Figures lately compos'd, and which muſt be mighty puzzling and perplexing, by reaſon of the frequent References requir'd from the Figures to the Explanations in the firſt Volume. One muſt take a view of the perpetual Relation there is between theſe two Volumes, before we can comprehend how prodigious an Application he muſt have made to render that great Work ſo correct as it is.*

Monſieur Le Clerc, *always modeſt, and ever a ſpeaker of Truth, ſhews himſelf very particularly a Maſter of both theſe Virtues, in this his* Treatiſe of Architecture; *and that to ſuch a degree too, as is againſt his own proper Intereſt. It is cuſtomary in the Titles of Books, to affect giving the World a great and pompous Idea of them, and to ſwell the Title with numerous Contents of mighty Profit, ariſing to all ſorts of Perſons from the peruſal of the Book, in order to inhaunce its Price, and give it a better Run. Our Author, on the contrary, in the very Frontiſpiece of his Work, declares That it was expreſly made for the uſe of young People, who had a mind to apply themſelves to the ſtudy of that fine Art: and even in the Advice to the Reader, he does not explain himſelf to any better advantage, to make it appear more promiſing. Be it our part to make amends for the Injury which Monſieur* Le Clerc *has done himſelf in confining his Work to ſuch narrow Views, and to ſhew that it truly contains all the Remarks*

marks and Obſervations that can be deviſed for the Uſe and Profit even of thoſe who have had many years Experience, and been long practiced in the important Profeſſion of an Architect. Throughout all this Work, he keeps cloſe to what regards the Beauty, the good Taſte and Elegance of the principal parts which enter the Compoſition of an Edifice, truly great and noble; he has there deſcrib'd the Orders *of* Columns, *and Pilaſters under new invented Meaſures, and Proportions. He next lays before our eyes, the other* Parts *which may accompany theſe* Orders: *and are not theſe very nice* Points, *which muſt take with Maſters themſelves, as well as with Diſciples of that Art?*

Our Author explains himſelf ſo clearly upon every Point *of Architecture that has ever been taught, that there is no young Man of a moderate* Genius, *but may from his own ſingle* Reading *and* Obſervation, *comprehend all the Leſſons contain'd in that Treatiſe. The Beauty of the* Plates *which compoſe the Second Tome, invite them to the Study, by the agreeable Accidents and Circumſtances which Monſieur* Le Clerc *has there invented: He divides his Book into ſeven Sections.*

The firſt Section treats of Architecture in general, and the five Orders *of* Columns: *namely,* 1. *The* Tuſcan, 2. *the* Doric, 3. *the* Ionic, 4. *the* Corinthian, 5 *the* Roman, *which they likewiſe call the Compoſite Order, becauſe the Capital of that Column is compos'd out of the principal parts of the Capitals belonging to the other Orders. The* Corinthian *Order is by much the moſt noble, rich and delicate; it is a Maſter-piece of Art which is ſeldom made uſe of,* *of, but in Buildings the moſt pompous and magnificent.*

The Second Section treats of the Orders of Columns ſeverally; and what the Author remarks, concerning the Intervals, or Spaces between the Modillions, deſerves the Peruſal of the greateſt Maſters.

The Third Section treats of Pilaſters.

The Fourth Section treats of wreath'd or twiſted Columns, of Columns repreſenting human Figures, of Cariatides *or Columns made in the ſhape of Women, of* Perſian *Columns, Termini or Terms, of Arches, Piazzas, and Portico's ſupported by Pillars, of Entablatures that have Returns, or unequal Projectures, and of the* Attick *Order.*

The Fifth Section ſpeaks of all the Aſſemblage of the ſeveral Orders together. Here the Author delivers in a very few words a great many things that claim the uttermoſt Attention, and that are excellently adapted to form in us a good Taſte, and lead us to the full Acquiſition of that Knowledge, which is required in carrying on the greateſt Works of Architecture.

The Sixth Section treats of Doors, Windows, Pediments, Niches, Statues, and Pyramids.

The Seventh and laſt Section treats of Rails and Baluſters, of Balconies, and Perrons or Steps rais'd before the Doors of great Houſes. Here again Mr. Le Clerc *lays down ſome particular Obſervations. The whole concludes with a* new French Order; *which he gives us to underſtand, provided it be well executed, will have the moſt beautiful and graceful effect, that can be conceiv'd. He has made a ſmall Model of it in*

Relievo, *which he obſerves is not to be beheld without Pleaſure and Satisfaction.*

In a word, Mr. Le Clerc *has, in this laſt Book of his compoſing, not only given us Rules for the Ordonnance of the Parts of all kinds of Buildings; but he hath likewiſe let us into a thorough Knowledge of the proper Ornaments and Decorations, which ought to enter into the reſpective Compoſitions, and give Life and Beauty to the whole. He opens the eyes of young People, and fills their minds with thoſe heights of Knowledge and Judgment, which thoſe, who have a mind to be Maſters of the Art, and eminent for their skill in Architecture, ſhould above all things make it their Endeavour to acquire.*

A
TREATISE
OF
ARCHITECTURE.

SECTION I.

By way of Introduction to the Study of Building.

ARTICLE I.

Of ARCHITECTURE *in general.*

ARCHITECTURE, in general, is the Art of Building well; and conſiſts of two principal parts: the one Civil, the other Military.

The end of Civil Architecture is to ſhelter men from the injuries of the weather; and to furniſh them with ſtrong, ſuitable, healthy, convenient, and agreeable Habitations.

Military Architecture, uſually call'd Fortification, has for its Object, the Security of Cities and States: but this part we reſerve for the Subject of another Treatiſe.

Civil Architecture may be conſidered, either in the Deſign of a Building, or in the Conſtruction, and Workmanſhip thereof.

In the Deſign, the principal regard is had to the Diſtribution of Apartments, their Uſes and Conveniencies, to the beautiful Appearance of the whole, the juſt Accord and Harmony of the parts, and to their Proportion and Elegancy.

In the Conſtruction, regard is had to the Firmneſs of the Foundation, the Strength of the Maſonry, the Quality of the Stone, Sand, Lime, and Mortar; or, to ſpeak properly, the Conſtruction, rather, conſiſts of ſeveral diſtinct parts; as the Maſonry, Carpentry, Joinery, Smithery, Glazery, Roofing, *&c.*

The Scheme or Projection of a Building, is uſually laid down in three ſeveral Draughts or Deſigns.

The firſt is a Plan, which ſhews the Extent, Diviſion, and Diſtribution of the Ground into Apartments, and other Conveniences.

The ſecond ſhews the Stories, their Heights, and the Outward Appearances of the whole Building; and this we call the Deſign or Elevation.

The third, call'd the Section, ſhews the Inſide: and from theſe three Deſigns, the Undertaker forms a Computation of the expences of the Building, and of the time required to go through with it.

A Deſign or Projection may either be that of an ordinary Habitation, or that of a noble, ſtately and magnificent Building: the Architecture of which laſt, alone, will make the ſubject of the following Treatiſe.

Article

ARTICLE II.

The KNOWLEDGE *neceſſary for an Architect to become eminent.*

AMong all the arts, that of Architecture is one of the moſt extenſive and the moſt difficult. For which reaſon, a perſon who would apply himſelf to it, ſo as to become a Proficient, ſhould not neglect any of thoſe Studies, that have a Tendency to open his mind, procure him a Genius, an Accuracy and a good Taſt every thing that in any wiſe relates to Building.

Theſe Studies may be reduced to Deſigning, Geometry, Arithmetic, Mechanics or the knowledge of Moving Powers, Perſpective, Stonecutting, Levelling and Hydraulics.

Deſigning is in a particular manner neceſſary for an Architect; for 'tis from hence he muſt fetch all his nobleſt Thoughts, and all that Grace and Beauty which he wou'd beſtow upon his Building, both in the whole and its parts.

Geometry, too, is indiſpenſibly requiſite; for it is this that muſt furniſh the Architect with ſure and certain Principles, whereon to proceed in the practice of his Art.

Arithmetic he can't be without; on account of the Calculations neceſſary to determine the Expence of Materials, of Money and of Time, that the execution of his deſign will require.

He muſt underſtand the Cutting of Stones, chiefly for the Building of Arches, Vaults, Gates, Stair Caſes, and all other parts of Buildings which hang in the Air, and are out of the Perpendicular.

Perſpective is highly uſeful; for this, in a ſingle Deſign, ſhews him the Effect which any building will have, when it comes to be actually rais'd.

The knowledge of Mechanics will be of infinite ſervice to him, in contriving the Machines neceſſary in raiſing of his Buildings.

Levelling and Hydraulics will guide and direct him in the conveyance of Waters.

But above all he muſt ſtrive to acquire a good Taſt, by making himſelf a maſter in Deſigning. This will enable him to diſtinguiſh the Beautiful and Grand manners of building, and to prefer them to all others; on which all his reputation in Architecture entirely depends.

ARTICLE III.

Of BEAUTIFUL *Architecture, or the* NOBLE MANNER *of Building.*

THE Beautiful manner of Building we owe wholly to the antient *Greeks* and *Romans*, who gave us the firſt Ideas thereof, in thoſe Magnificent Edifices, which they erected to the glory of their falſe Gods, their Princes, and their People. Such were their Temples, Palaces, Amphitheatres, Circus's, Triumphal Arches, Baths, Mauſolea and other Buildings and Monuments; ſome Remains whereof, even at this day, ſhew the Politeneſs and Power of thoſe people.

This Architecture we diſtinguiſh from the Common, by its Orders of Columns and Pilaſters, and by their Appendages, as Pediments, Niches, Baluſtrades, Vaſes, Statues, and other Ornaments; by its noble Ordonnances of Frontiſpieces, Veſtibles, Periſtyles, Domes, Salons, and Portico's, whereof Architects have compoſed thoſe ſtately and magnificent Structures, which ſtill continue to do honour to thoſe for whom they were erected.

ARTICLE IV.

Of the ORDER *of* COLUMNS.

OF all the parts, which enter the compoſition of a Magnificent Building, the Orders of Columns are the moſt conſiderable.

An Order of Columns, is uſually underſtood of a Column, bearing its Entablement; but the Order is ſcarcely compleat, excepting the Column be rais'd on a Pedeſtal.

The Pedeſtal, Column, and Entablement are three Compound Parts, each conſiſting of three others.

The Parts of the Pedeſtal, are the Baſe, Dye, and the Cornice; thoſe of the Column, the Baſe, Shaft, and the Capital. Thoſe of the Entablement, the Architrave, Frize, and the Cornice: each of which parts have their particular characters and members; call'd by the general names of Mouldings or Ornaments.

ARTICLE V.

Of the different ORDERS *of* COLUMNS.

THE Antients have given us five ſeveral Orders of Columns; the *Tuſcan*, *Doric*, *Ionic*, *Roman* and *Corinthian*.

The *Tuſcan* Order is the ſtrongeſt, and the moſt ſimple of all others: its name ſhews its Original.

If we believe Monſ. *de Chambray*, in his Parallel, this Order ought never to be uſed any where but in Ruſtic, or Country Houſes and Places. And 'tis certain that in the manner *Vitruvius*, *Palladio* and ſome others deſcribe it, it ſcarce deſerves to be uſed at all. Methinks, however, in *Vignola*'s manner of compoſition, it has certain beauties even in its ſimplicity, which add a value to it, and render it worthy to be uſed not only in private Houſes, but alſo in publick Buildings; as in Portico's of Markets, or publick Halls, in Magazines or Granaries of Cities, and even in Palaces, and Seats of Princes and Noblemen, particularly in the lower Apartments, Offices, Equeries, *&c.* And in general, in all places where Strength and Simplicity are required, and where any of the richer and more delicate Orders wou'd be unſuitable.

The *Doric* Order is the moſt antient, and was given us by the *Greeks*. Its Compoſition is Grand and Noble; and the Triglyphs, which make the Ornaments of its Frize, bearing ſome reſemblance to a Lyre, ſeem to intimate it to have been originally intended for ſome Temple conſecrated to *Apollo*. As we are now furniſh'd with richer and more delicate Orders for Temples; the *Doric* is moſt properly uſed in the Gates of Cities, in Arſenals and Places of Arms, in Halls of Guards, and other Buildings that have relation to War; where Strength and a rough but noble Simplicity are particularly required.

In the moſt antient Monuments of this Order, the Columns are without Baſes, the reaſon of which is not eaſy to aſſign. Monſ. *de Chambray* in his Parallel is of opinion with *Vitruvius*, that the Dorick Column having been compoſed in imitation of a Naked man, nervous and robuſt as an *Hercules*, it ought to have no Baſe; imagining a Baſe to be that to a Column, which a Shoe is to a Man. But for my own part, I muſt confeſs, I can't conſider a Column without a Baſe, but in comparing it to a Man, I rather form the Idea of a Man without Feet, than without Shoes. For this reaſon, I am rather of opinion, either that the Antient Architects had not yet thought of adding Baſes to their Columns, or that they declined on purpoſe to give them any, with deſign to keep the pavement clear and unembarraſſed with the Angles and Projectures of Baſes, which are apt to occaſion people in paſſing by to ſtumble. This too appears the more probable, in regard the Architects of thoſe times uſed to range their Columns exceedingly near one another; ſo that, had they been furniſhed with Baſes, the Paſſages between, would have been extremely narrow, and incommodious. And this appears to be the reaſon why *Vitruvius* orders the Plinth of the *Tuſcan* Column to be rounded off; that Order, in the manner he deſcribes it, being particularly adapted to the ſervile Offices of Buſineſs and Commerce, where Conveniency is always to be conſulted before Beauty. Be this as it will, every man of good taſt will allow, that a Baſe adds a Grace to a Column; and that it is a very neceſſary Appendage, in regard it makes it ſtand the more firmly on its Plan: ſo that if no Columns are now made without Baſes, this ought not to be imputed to the Prejudices of our Architects, as ſome admirers of Antiquity will have it, but to their Prudence.

The firſt Idea of the *Ionic* Order was given by the *Ionians*, who, according to *Vitruvius*, compoſed this Column on the Model of a young Lady dreſs'd in her Hair, of an eaſy and delicate Shape; as the *Doric* had been formed on the Model of a ſtrong robuſt Man. Tis ſaid the Temple of *Diana* at *Epheſus*, the moſt celebrated Edifice of all Antiquity, was of this Order. It may now be uſed in Buildings of Piety; as in Churches, Courts of Juſtice, in Apartments of Ladies, and in other places of quietude and peace.

The *Roman* Order is uſually call'd the Compoſite, in regard its Capital is compoſed of the principal parts of the Capitals of other Orders. It has a Quarter-round as the *Tuſcan* and *Doric*, Volutes as the *Ionic* and a double row of Leaves underneath, as the *Corinthian.*

I call it *Roman*, as believing, with many others, that the *Romans* firſt invented it. Moſt of our Architects, in compliance with uſage and cuſtom, place this after the *Corinthian*; doubtleſs becauſe it is the laſt that was invented. *Scamozzi* is the only Author who varies from the rule; but he does it with ſo much Judgment, that we make no ſcruple to imitate him.

This Order may be uſed in every place, and on every occaſion, where 'tis required that Strength Richneſs and Beauty ſhould be found together.

The *Corinthian* Order is the nobleſt, the richeſt, and the moſt delicate Order of Architecture. This is indeed a maſter-piece of Art, for which we are indebted to the City of *Corinth*: it ought always to be uſed in the moſt Stately and moſt Magnificent Buildings.

Theſe ſeveral Orders have been very judiciouſly compoſed at various times, in order to ſuit the various kinds of Buildings, which either Neceſſity or Magnificence ſhould occaſion men to erect; and theſe are ever made more or leſs ſimple, each in its kind, and more or leſs ſlender, according to the Buildings they are uſed in, and the riches of the Princes, People, or private Perſons who build them.

ARTICLE VI.

Of the different MANNERS, *wherein the five Orders of Columns have been treated: with ſome uſeful Remarks on thoſe of* Palladio, *and* Vignola.

IF theſe Orders of Columns had any poſitive Beauties, eaſy and obvious to the Eye, Architects wou'd have been oblig'd to agree among themſelves as to their Rules and Proportions: but as their Beauties are, in effect, meerly arbitrary, and not founded on any certain Demonſtrations, it happens, that thoſe who have treated of them have all preſcrib'd different Rules, according as their Taſte and Genius were different. It muſt be own'd, however, that though the ſame Order may have different Beauties, and different Proportions; yet among thoſe Beauties and Proportions, 'tis certain there are ſome which pleaſe more, and are more univerſally approv'd than others.

Among the ſeveral Authors who have written of Architecture, *Palladio* and *Vignola* ſeem to be the moſt generally follow'd: But, 'tis a doubt even among Perſons of Skill and Judgment, which of the two ought to be preferr'd to the other. The Orders of *Palladio* have Beauties different from the Orders of *Vignola*. I mean, their ſeveral Orders have each of them their reſpective Beauties: And yet the great difference between their Compoſitions does hardly allow us to view them without making a choice from ſome Circumſtances. For inſtance, *Vignola*'s Rule of making the Entablement in all the Orders juſt a fourth part of the height of the Column, pleaſes me leſs than that of *Palladio*, who diminiſhes this height in the three laſt Orders. I mean *Vignola*'s Entablements appear heavy and lumpiſh; and eſpecially in the *Ionic*, *Corinthian*, and *Compoſite* Orders; and above all, when the Columns are without Pedeſtals.

On the other hand, *Vignola*'s Pedeſtals, whoſe height in all the Orders is one third of that of the Column, are in my opinion preferable to the Pedeſtals of *Palladio*, which having leſs height appear flat and low.

Again, The Zocco of *Vignola*'s Pedeſtal ſeems too little, and that of *Palladio* too big and ſtrong for the Pedeſtal.

Further, I cannot commend *Vignola* for giving *Vitruvius*'s Baſe to the *Ionic* Column, and for excluding out of all his Orders the antient *Attic* Baſe, which without diſpute is the moſt beautiful of all the Baſes of Columns.

Palladio, too, in my opinion had done better, if, in imitation of the Antients, he had given the *Attic* Baſe to the *Ionic* Column, inſtead of the *Doric*; in which laſt ſome more ſimple Baſe, as that for inſtance of *Vignola*, wou'd have been more ſuitable and conſiſtent with the ſolidity of the Order.

Add to theſe, that a Man cannot view *Vignola*'s *Tuſcan* Order, without obſerving that of *Palladio* ill-conducted almoſt in every part; but eſpecially in the Shaft of the Column; which, indeed, appears monſtrous on account of its exceſſive Diminution towards the top. Even the ſmalleſt ſhare of Diſcernment is ſufficient to diſcover this.

Methinks, too, it had been more juſt in *Palladio*, if, inſtead of Modillions in the *Ionic* Entablement, he had made Dentils; which, as *Vignola* has very well obſerv'd, are an eſſential Ornament of this Order: Modillions appearing too ſtrong, and maſſive for a Column that profeſſes to imitate the delicacy of a young Woman.

Nor does it appear over-judicious in *Vignola*, to uſe Dentils in four of the Orders; it being a Point of Prudence in an Architect, to introduce a diverſity in the Ornaments, as well as the principal Members of his Orders.

And again, I can't but think it an Overſight in *Vignola* to make his Dentils leſs in the *Doric* Order, than in the *Ionic*, *Corinthian* and *Roman*; when 'tis own'd the *Doric* is conſiderably leſs delicate than any of thoſe other Orders.

Who can approve of *Palladio*'s making the *Corinthian* Column leſs delicate than the *Roman*, and the *Roman* Capital at the ſame time leſs delicate than the *Corinthian*? Or was it juſt in *Vignola*, to make the two Columns, *Corinthian* and *Compoſite*, in the ſame Proportions? Ought not ſome regard to be had to the difference of their Capitals, and, on that account, ſhou'd not ſome more Delicacy be ſhewn in the *Corinthian* Column, than the *Roman*?

Further, it may be juſtly ſaid, That, if *Vignola* have made his Entablements too heavy in the three laſt Orders, *Palladio* has made his too light.

I obſerve alſo, that *Vignola* has made his Modillions in the *Corinthian* Order too large, inſomuch that they encroach upon each other in the Inner Angles of the Entablement; on which account, the Roſes incloſed between them appear too ſmall with regard to thoſe which come after them: which muſt be own'd a conſiderable Fault, that *Palladio* had the good Fortune to avoid, by making the Spaces between the Modillions perfect Squares.

Nor can it be denied, that in *Vignola* the Die of the *Corinthian* Pedeſtal is too high, and in *Palladio* too low for the Baſe.

Laſtly, a Man cannot view *Vignola*'s Portico's, without obſerving them to be better proportioned than thoſe of *Palladio*, which are too wide in the two firſt Orders, and too narrow in the two laſt.

Were I to examine the Profiles of theſe two Authors, many of them wou'd be found intolerable; being compos'd of Mouldings that are ill match'd to each other, and in no wiſe ſuitable to the Places where they are found.

Theſe and many other Remarks of this kind, were what firſt determined me to compoſe the following Treatiſe. I wiſh thoſe who do me the honour to read it, may have the Light neceſſary to judge of it themſelves; or at leaſt, that they wou'd have recourſe to thoſe Aſſiſtances of Mathematicks, and Deſigning, wherein I may be ſuppos'd to have made ſome Proficiency; and, which every one muſt allow are two Points to be principally laboured, in order to meet with Succeſs in this Study.

ADVER-

Advertiſement.

I *Here propoſe the five common Orders, under new Meaſures and Proportions; with a ſecond* Tuſcan *Order, which I place between the firſt* Tuſcan *and the* Doric.

The Reader will alſo find a Spaniſh *Order between the* Roman *and* Corinthian, *and a* French *Order at the end of the Work.*

For the reſt, I don't here propoſe to make any long, pompous, and unneceſſary Diſcourſes; the Figures which I add will explain themſelves; nor ſhall I make any Remarks and Obſervations, but ſuch as I judge abſolutely neceſſary for the Inſtruction of the Youth, who apply themſelves to this Art.

The Module, which I uſe for a Meaſure, is the Semidiameter of the Baſe of the Column, which I always ſuppoſe divided into 30 *equal parts.*

The Numbers added to the Figures ſignify Modules, where-ever they are follow'd by the letter M: *without this letter they only expreſs parts of Modules, which we otherwiſe call Minutes.*

A

A TREATISE OF ARCHITECTURE.

SECTION II.

Of the Orders of Columns, in new Proportions: with uſeful Remarks and Obſervations.

Figure 1.

Of the TUSCAN *Order.*

THE Compoſition of this Order is much alike to that of *Vignola*, who has given it all the Simplicity that it can ever, reaſonably, have.

The Column is 14 Modules high, the Pedeſtal 4 and 25 Minutes, and the Entablement 3 and 15 Minutes; ſo that the Column is three times the height of the Pedeſtal, and four times that of the Entablement; the whole Order making 22 Modules, and 10 Minutes or Parts.

CONSTRUCTION *of this* ORDER.

To conſtruct this Order, draw the Baſe-line *AB*, erect the perpendicular *CD*, which will be the Axis of the whole Order, and make a Scale *EF*, divided into Modules, that is, into equal Parts or Semi-diameters of the Column, and ſubdivide the firſt Diviſion into 30 Minutes.

This done, take 4 Modules, 25 Minutes for the height of the Pedeſtal *CG*, 14 Modules for the height of the Column *GH*, and 3 Modules 15 Minutes for that of the Entablement *HD*; the reſt according to the Meaſures expreſs'd in the following Figures.

Thus much I thought proper to add by the way, to ſhew the Novice how he is to begin to make the Deſign of an Order: And I imagine I have ſaid enough, to enable him without any further Inſtructions, not only to continue this Order, but alſo to conceive the Conſtruction of the other Orders: Suppoſing that every one who applies himſelf to the ſtudy of Architecture, has already acquired Geometry enough to enable him to comprehend the whole at half a word.

Of the INTERCOLUMINATIONS. *Figure* 2.

In this Figure, where the Columns are without Pedeſtals, and without Portico's too, there are three ſeveral Spaces or Diſtances at which they may be placed; *viz.* a large, a mean, and a little Diſtance.

The firſt and ſecond ſhew the greateſt, and leaſt Space which can be reaſonably interpoſed between the Columns of this Order, when they follow each other, one by one; and the third ſhews how near they may be placed, when they are to follow each other two by two.

When theſe Columns ſtand two by two, between each Pair the greateſt diſtance muſt be made, which is 9 Modules, reckoning from the Axis of the one, to that of the other.

When they follow each other, one by one, the Interval ought not to exceed 4 Modules 20 Minutes, from one Axis to the other.

In this Plate are likewiſe ſhewn the Meaſures for the diſtances of Columns, when they are found in Portico's or Arches. It is not however to be ſuppos'd, that theſe Proportions are ſo preciſe, as that they may not be varied a few Minutes, when occaſion ſhall require; but this muſt be obſerved, that the leſs the Variation is, the better it will be.

Of the COLUMN. *Figure* 3.

The Column is compos'd of three Parts; the Baſe, the Shaft or Fuſt, and the Capital.

Of the SHAFT.

The Shaft always terminates a-top with an Aſtragal, and at bottom with a Fillet, which in this place is call'd Ozla.

The Shaft uſually diminiſhes in thickneſs towards the top; and this Diminution commences from a third part of its height. That is to ſay, the height of the Shaft being divided into three equal parts, the firſt of them is equal, or Cylindrical, and the two others diminiſh imperceptibly to the Aſtragal, where the Diminution terminates.

Some give a little ſwelling to their Columns; that is, they make the Shaft ſomewhat bigger towards the top of the firſt third of its height, than towards the bottom; or rather they diminiſh the bottom of the Shaft, and by this means make the upper part of the firſt Diviſion appear to ſwell. But this Diminution at the bottom of the Shaft, ought never to exceed one Minute, or one Minute and an half at the utmoſt. The truth is, There ought to be no ſwelling at all in a Column, excepting where there is ſome particular reaſon for it; as where the Orders are placed over one another: an inſtance of which will be given hereafter.

OBSERVATION.

A Column ought always to ſtand exactly perpendicular on its Baſe; and yet *Vitruvius* out of a view to the ſtrength of the Building tells us, there are ſome places and occaſions, wherein it ought to incline towards the Wall, that is, the Diminution of the Column is to be taken wholly on the outſide; ſo that it may make a kind of Counter-fort or Buttreſs to ſtrengthen the Building. But as this Irregularity of

Column,

Columns, cannot chuſe but have an ill Effect; I am of opinion, *Vitruvius* in this caſe ought not to be regarded.

REMARK.

In ſome antient Buildings we meet with Columns, whoſe Diminution commences from the very bottom of the Shaft; which to me indeed appears very juſt and reaſonable: and yet this practice is now wholly laid aſide, and abandoned by all our modern Architects.

OBSERVATION. *Figure* 4.

Some very conſiderable Architects, on occaſion, incompaſs'd the Shafts of their Columns with ſeveral Cinctures or Fillets imboſs'd; as we ſee particularly in the place of *Luxembourg* and other places of Note. But theſe kinds of Ruſtic Ornaments are never to be imitated, excepting in the Gates of Cittadels or Priſons; in order to render their Entrance more frightful and diſagreeable.

This too muſt be obſerv'd, That if theſe Ruſtic Ornaments may be admitted any where, 'tis only in *Tuſcan* Columns, or at moſt in *Doric*; and never in the other more delicate Orders, eſpecially where they are fluted.

Of the CAPITAL. *Figure* 3.

The Capital of the *Tuſcan* Column only conſiſts of three parts; an *Abacus*, a Quarter-round or Boultin, and a Gorge or Neck, which terminates under a

Quarter-round in a Fillet: the Aſtragal underneath belonging to the Shaft.

Of the BASE *of this* COLUMN. *Same Fig.*

This Baſe only conſiſts of two Members or Parts, a *Plinth* and a *Torus*: the *Plinth* is a flat ſquare Body, the *Torus* a Body flat on one ſide, and round of the other.

The Fillet above the *Torus* belongs to the Shaft.

Of the ENTABLEMENT. *Figure* 5.

The Entablement conſiſts of three principal Parts. A Cornice, a Frize, and an Architrave.

To the firſt, that is, the Cornice, I give about two fifths of the whole height of the Entablement. The Frize I make ſomewhat higher than the Architrave, to the end that thoſe two Members may appear to have nearly the ſame height; the Overplus given to the Frize, being intended to ſupply the place of that part hidden from the Eye by the *Tænia*, which finiſhes the Architrave: and this ſame Rule I obſerve in all my Entablements.

Of the Projecture of the CORNICE. *Same Fig.*

'Tis an eſtabliſh'd Rule in Architecture, that the Cornice of the Entablement have its Projecture nearly equal to its height: and yet the Projecture may be ſafely made a little larger on occaſion; particularly where a Beautiful Profile is required; as I have here done in *Vignola*'s manner.

Of PORTICO'S, *or* ARCHES. *Fig.* 2. *and* 6.

'Tis the ordinary proportion of Arches, that the height be made double the width. But this may be varied; and made a little more, or a little leſs, as occaſion ſhall require.

OBSERVATION. *Fig.* 6.

When the Arches are to be at ſome diſtance from each other, for the Conveniency of any Apartments, either above or underneath; the Columns which ſeparate them, ought to be in Couples; but when they are in Couples, they ſhou'd have but one Pedeſtal, if they have any Pedeſtal at all.

Of the PEDESTAL. *Fig.* 7.

The height of this Pedeſtal, according to the general Rule already propoſed, ſhou'd be one third of the Shaft of the Column; that is, it ſhou'd not exceed 4 Modules 20 Minutes. And yet I make it 5 Minutes more; without which, in my opinion, it wou'd loſe all its beauty: Whence it may be obſerv'd, that general Rules are not always to be rigidly follow'd.

OBSERVATION.

The breadth of the Pedeſtal, I mean that of its Die, is always equal to the breadth of the Plinth of the Column; excepting the Pedeſtal be without Baſe and Cornice, as it frequently happens. In which caſe 'tis neceſſary that it ſhou'd be a ſmall matter broader, in order to diſtinguiſh it from the Baſe of the Column. *See Fig.* 126. *and* 128.

Of the ENTABLEMENT *of the* COLUMN, *rais'd on a* PEDESTAL. *Fig.* 8.

I always make two Deſigns of an Entablement; the one a ſmall matter higher than the other: The firſt for Columns which have no Pedeſtals, and the ſecond for thoſe which have. This difference of Entablement is a thing highly reaſonable; in regard Columns that have Pedeſtals, are in a more ſtately Ordonnance than thoſe which have none, provided the Columns be but equal in other reſpects; whence 'tis apparent, the Entablement of the firſt ſhou'd be ſtronger than that of the laſt. Accordingly, making one Entablement 3 Modules 15 Minutes, which is the common height, I cou'd not think it adviſable to make the other, which is for Columns without Pedeſtals, above 3 Modules 10 Minutes; which comes five Minutes ſhort of the former.

I am very ſenſible, that were we only to have regard to the Laws of Strength and Weakneſs, we ſhou'd diminiſh the Entablements of Columns that have Pedeſtals, rather than thoſe which have none. But we are here conſulting Beauty, not Strength. And it may be obſerv'd, that I don't augment the ſtrength of this Entablement, but diminiſh that of the former, where the Portico's are leſs grand, and the Columns leſs diſtant. But the neceſſity of theſe two Deſigns of Entablements in the ſame Order will appear more viſibly hereafter.

Of COLUMNS *inſerted, or let within the* WALL.

Fig. 9.

There are ſome occaſions, wherein an Architect cannot give his Building a ſufficient Projecture; particularly where the Entablement wou'd hinder the Sight of the Windows above, or intercept the Light of the Apartments below. In theſe caſes, the Columns are to have one third part of their Diameter inſerted or let into the Wall behind them. But recourſe ſhou'd never be had to this ſhift, excepting in caſes of neceſſity; for the Columns here loſe an infinite deal of that beauty and grace which they have when they ſtand alone.

It frequently happens too, that the Columns are let within the Wall for the greater Solidity, and the further ſtrengthning of the Building. This however, ought to be obſerved, that they never loſe above one third of their Diameter; the reaſon of which will appear when we come to ſpeak of Impoſts.

OBSERVATION. *Same Fig.* 9.

When the Columns ſtand alone, they have uſually a Pilaſter placed behind them, join'd to the Wall, or the Pillar of the Portico; as is ſhewn in the Plan *D*, of this Figure.

Sometimes in lieu of a Pilaſter, we have a Column let within the Wall, in order to make the Symmetry more compleat: Inſtances of which are frequent.

OBSERVATION.

Though we allow of a Column let within the Pillar of a Portico; yet we can never approve of the letting a Column within a Pilaſter; Inſtances of which, however, may be met withal.

* * *

Figure 10.

Of a Second TUSCAN *Order.*

THis Order is leſs Simple and Maſſive than the former: It has ſomewhat of a Maſculine Beauty, and a good Taſte. Its Frize may be properly adorned with Turtles, which are the Arms of *Tuſcany.*

Names of the Parts and Mouldings of this ENTABLEMENT. *Fig.* 12.

A. Cima-recta, or Ogee with its Fillet over it.
B. Baguette, a kind of Aſtragal, with its Fillet underneath.
C. Corona with its Larmier or Drip underneath.
D. Quarter-round or Boultin.
E. Scotia or Cavetto, with a Fillet over it.
F. Frize.
G. Tœnia or Liſtel.
H. Second Faſcia with its Fillet over it.
I. Firſt Faſcia or Naked of the Entablement.

OBSERVATION. *Fig.* 13.

When the Columns ſtand two by two, they may be placed pretty near each other; but it is to be obſerved, that their Baſes ought never to touch; tho' we frequently find they do. The reaſon of this Rule is, that when the two Plinths come to be joyn'd into one, they form a new Body which ſeems to have no relation to the Columns themſelves. This Failing becomes very viſible when the Columns have but a ſingle Pedeſtal; for in that Caſe, this continued Plinth appears rather as a part of the Pedeſtal, than of the Column.

Fig. 14. *Shews the Entablement of the Column rais'd on a Pedeſtal.*

Fig. 15. *Repreſents the Pedeſtal with the Baſe of the Column: The Names of whoſe parts are as follow:*

A. Shaft, or Fuſt of the Column.

The Parts of the BASE.

B. Scotia or Cavetto, with its Fillet underneath.
C. Torus.
D. Plinth.

The Parts of the PEDESTAL.

E. Plat-band.
F. Quarter-round.
G. Die, with its Fillets and their Apophyges.
H. Little Torus.
I. Zocco.

The

The Parts of a PIEDROIT.

KL. Piedroit with its Fillet at bottom.
M. Its Zocco.

OBSERVATION.

If the Shaft be made of Stone or other matter, different from that of the Baſe, the Cavetto *B*, with its Fillet underneath, may be added to it ; the remaining Baſe only conſiſting of a Torus and a Plinth.

* * *

Figure 16.

Of the DORIC *Order.*

IN the Compoſition of this Order we may diſcern ſomething extreamly bold and noble. Its Entablement is pretty much like that which *Vignola* gives us; and which he owns to have taken from ſome antient Fragments. The Column is 16 Modules high, the Pedeſtal 5 Modules and 10 Minutes, and the Entablement 3 Modules 28 Minutes: ſo that the height of the Pedeſtal is one third of that of the Column, and the Entablement nearly one fourth. The whole Order being in height 25 Modules and 8 Minutes.

Of the INTERCOLUMINATIONS. *Fig.* 17.

The Diſtances of the Columns are not left to Diſcretion in this Order, as in the *Tuſcan*. The Triglyphs, which make the Ornament of this Column, with their Metopes, being confined to certain Meaſures, put it frequently out of the power of the Architect to place his Columns at the Diſtances he might otherwiſe chuſe: However, by taking the liberty which I have done, of diſpenſing a little with the ordinary Proportions of theſe Triglyphs and their Metopes, a Man has the Intercolumination in his own power; and yet without giving the leaſt Offence to the niceſt Judges of Architecture, by ſuch change of Proportions.

By Proportion I don't here mean, a Relation of Ratio's as the Geometricians do; but a Suitableneſs of parts, founded on the good Taſte of the Architect.

In this Figure, the Meaſures of the Intercoluminations and the number of Triglyphs and of Metopes which ſeparate them, are ſufficiently ſhewn: the particular Proportions and Meaſures of thoſe laſt parts will be ſhewn hereafter.

Of the different Diminutions of COLUMNS.

All Columns begin to diminiſh, in thickneſs, from one third of their height, as we have already obſerv'd. But in Proportion as their Orders are more delicate, their Diminution ought to be leſs ſenſible. For inſtance, in the firſt *Tuſcan* Order, where the Column is but 14 Modules high, its Semi-diameter under the Aſtragal is diminiſh'd 6 Minutes. In the ſecond *Tuſcan* Order where the Column is but 15 Modules high, its Diminution under the Aſtragal is but 5 Minutes and an half; and in the *Doric* Order where the Column is 16 Modules, the Diminution is but 5 Minutes. In the *Ionic*, where the Column is 18 Modules, this Diminution is but 4 Minutes and an half; and in the *Roman* and *Corinthian* only 4. That is, a Diminution of 4 Minutes on each ſide the Axis, is the utmoſt that the Column undergoes, though it always encreaſe in height in proportion to its thickneſs.

Indeed, according to ſome Authors, the Diminution of Columns, even of the ſame Order, ought to be greater or leſs, according as their heights are greater or leſs.

For inſtance, a *Doric* Column, ſay they, 20 Foot high muſt have leſs Diminution than another of 15 Foot. And one of 30, leſs than another of 20: the reaſon they give for this, is, that the greatneſs of the height eaſily impoſes on the Sight; and hence conclude that a very tall Column muſt of it ſelf appear diminiſh'd towards the top. Nor can it be denied, but that this holds true where the Eye is placed near, and looks up from the bottom to the top of the Column; but then it is to be conſidered, that large Columns are never made with deſign to be view'd thus near, but always at a diſtance ſuitable to their height: and it would be ridiculous to ſpoil their Proportions, out of Complaiſance to ſuch as ſhould pleaſe to view them at an improper diſtance.

In my opinion therefore, when any certain Diminution of a Column has been once eſtabliſh'd; provided it do but pleaſe the Eye when view'd at a diſtance, it ought never to be changed on occaſion of any Alterations in the height of the Column; excepting it ſhould be found in ſome cloſe narrow place, which yet can never happen, unleſs in the inſide of a Building: for inſtance, of a Dome, or the like; to which a prudent Architect will always have a particular regard.

It muſt be remembred, that I am here ſpeaking of Columns of the ſame Order; for in different Orders the Diminution muſt be different, as I have already obſerv'd. But as to a *Doric* Column, for inſtance, be its height an hundred Feet, or be it but ten, its Diminution ſhou'd always be the ſame at leaſt this is my opinion.

Of

Of the FLUTINGS *of the* DORIC Column. *Fig.* 18.

The Flutings of this Column ought not to exceed twenty, which is the number obſerv'd by *Vignola. Palladio* indeed has twenty four, but they appear too ſlender for this Order. Theſe ſhou'd always be ſo diſpos'd, as that there may be one to ſtand full in the middle of the Column. *Vignola* determines their depth by an equilateral Triangle, having one of its Angles in the middle of the Fluting. *Vitruvius* will have the depth to be the middle of a Square, one of whoſe Sides is the width of the Fluting, which laſt muſt indeed be the deeper of the two.

Sometimes the Flutings are made flat, and are call'd *Facettes*; but theſe never have ſo good an Effect as the others; and for that reaſon, are not ſo much in uſe, though it can't be denied but they are more ſuitable to the Solidity of the Order.

OBSERVATION. *Fig.* 19.

The Flutings ought always both to begin and end in the Shaft; near the extremity of the Apophygis.

When there are Flutings in the Column, there ought alſo to be Eggs and Anchors in the Quarter-round of the Capital; and even Pearls and Olives in a Baguette, to be made underneath, in lieu of Annulets.

Theſe Eggs and Olives ought to be in the ſame number with the Flutings, and to be regularly diſtributed; as is ſhewn in the Plan of this Figure.

Of the MUTULES. *Fig.* 19.

I make Mutules in this Entablement, not only to diſtinguiſh it the more from other Entablements, but alſo becauſe they agree very well with the nobleneſs of this Order; and add ſomewhat of a maſculine Beauty to it.

In this Figure may be ſeen, how the Mutules make a *Corona* to the Triglyphs underneath: each Triglyph having its ſeveral Mutule.

OBSERVATION. *Fig.* 20.

Thoſe who uſe Mutules, uſually make them of the ſame breadth with the Triglyphs. But it wou'd be much better in my opinion, if they were made of the ſame breadth with the Capitals of the Triglyphs.

It may alſo be obſerv'd, That I don't run my Mutules ſo near the Extremity of the Larmier or Drip, as is uſually done; but that I leave a Space of three or four Minutes between the two, that the Profile may appear the more diſtinctly: and I obſerve the ſame Rule in the Modillions of the other Orders.

Of the TRIGLYPHS. *Same Fig.* 20.

The ordinary Proportion of Triglyphs, is one Module in breath, and one and an half in height. But in regard theſe Meaſures occaſion a Diſproportion in the Intercoluminations of Portico's, (a thing particularly obſervable in *Vignola*, who makes the Pillars, there, five Modules broad, whereas the others are but four;) I have accommodated the Proportion of mine, I mean of my Triglyphs, to that of the Intercoluminations; thinking it more reaſonable to make the little parts correſpond to the greater, than the greater to the leſs. And yet I believe it will be own'd, that my Triglyphs, tho' different from the ordinary ones, are not inferiour to them in beauty. *See Fig.* 19. *and* 24.

Of the METOPES. *Fig.* 19.

By Metopes are meant the Intervals between the Triglyphs. The beauty of theſe conſiſts in their regularity; that is, in their being perfect Squares. And yet when they are really ſquare, they appear to be leſs in height than in breadth; which is owing to the Projecture of the little Bandelet wherein they terminate underneath, that hides a ſmall part of their height: for this reaſon I make the Metopes a Minute or two more in height, than in breadth; being of opinion, they ought rather to appear ſquare without being ſo, than really be ſquare, without appearing ſo.

OBSERVATION. *Figure* 22.

When the Triglyphs and Metopes follow each other regularly, as in the Figure here refer'd to, the Columns muſt only ſtand one by one; excepting thoſe of the inner Angles, which ought always to be accompany'd with two others, one on each ſide; from which the reſt of the Columns may be placed at equal diſtances from each other: and it is to be obſerv'd, that theſe two Columns, which accompany that of the Angle, are not leſs neceſſary on account of the ſolidity of the Building, than of the regularity of the Intercoluminations.

OBSERVATION. *Fig.* 23.

Inſtead of a Column in the Angle, one may place a Pilaſter, which will contribute more to the ſtrength of the Building.

OBSERVATION. *Fig.* 22.

Columns ſtanding alone, and diſtributed one by one, ought to have no Pedeſtals, for theſe wou'd make them appear too ſlender and weak.

Of the PEDESTAL. *Fig.* 23.

When Columns are to be placed two by two, as it is ſometimes found neceſſary, the regular placing of the Triglyphs in the inner Angle, muſt be a little interrupted, in order to keep up the regularity of the parts of the Ceiling; as is ſhewn in this Figure. And in lieu of a little part of a Triglyph in the Angle, may be plac'd the Arms of the Family, or ſome other ſuitable Ornament, to cover that Defect.

OBSERVATION. *Fig.* 24.

In a Periſtyle conſiſting of Columns placed one by one, with Pedeſtals underneath, one ſingle Pedeſtal ſhould ſerve for all the Columns: that is, the ſame Pedeſtal muſt be continued throughout; as is repreſented in this Figure. But then the Pedeſtal ought to be diſtinguiſh'd into two parts, a fore and a hind part; ſo that each Column may ſeem to have its ſeveral Pedeſtal.

OBSERVATION.

In placing a Pilaſter in an Angle, in the manner already directed, there appears an Irregularity; and it conſiſts in this, that the Naked of the top of the Pilaſter, exceeds, a little, the Naked of the Entablement; which ſeems to oblige the Architect to make a Reſſaut or extraordinary Prominence in the Entablement. But as ſuch a Prominence wou'd ſpoil all the Regularity of the Frize and the Ceiling, 'tis better to let it alone; and rather to ſuffer a little Defect, than correct it by adding a much greater.

OBSERVATIONS. *Fig.* 25. *and* 26.

When Columns, that have Pedeſtals, are uſed in Portico's, they may ſtand one by one: becauſe in that Caſe, they are ſupported and fortify'd by the Pillars of the Portico.

The advantage of having two Deſigns of an Entablement, appears ſtill more evidently in this Order, than in the *Tuſcan*. In the preceeding Deſigns, intended for Columns without Pedeſtals, the Triglyphs are but 26 Minutes broad; whereas in theſe which are for Columns that have Pedeſtals, they are 28. this number being neceſſary, in order to have juſt and well proportioned Intercoluminations.

It may alſo be obſerved, that when the Proportions of the Triglyphs are changed, thoſe of the Metopes change likewiſe.

Profile of the large DORIC ENTABLEMENT, *with its Parts, and their Names.* Fig. 26.

A. Cavetto, with its Fillet over it.
B. Baguette.
C. Corona, with its Fillet over it.
D. Little Ogee or Cima inverſa.
E Plat-band.
F. Mutule, view'd in Front.
G. Mutule view'd ſidewiſe.
H. Quarter-round with its Fillet underneath.

I. Capital of the Triglyph.
K. Triglyph.
L. Semi-Metope: or rather, part of a Metope.
M. Triglyph, view'd ſidewiſe.
N. Tenia or Bandelet.
O. Guttæ or Drops.
P. Faſcia of the Architrave.
ab. Cornice, *bc*. Frize, *cd*. Architrave.

OBSERVATION.

I make but one Faſcia in the Architrave; to the end that the Drops which fall from the Triglyphs, may not be found out of the naked of the Frize: and yet a ſecond Faſcia might be added, provided its Projecture be but ſmall, as I my ſelf have done in the Entablements of Pilaſters, Figures 87. *and* 89.

Names of the principal Parts of the SOFIT *of a* CORNICE. *Fig*. 27.

ABC. An angular Frame or Pannel, containing three Roſes.
DEF. Bottom of a Mutule.
G. A little Modillion contriv'd under the Mutule in the middle of the Drops, which make a double Row around it.
D. A little Border containing the Drops of the Mutule.
HH. A large Border which ſurrounds the Pannels and the Mutules.

I. Plan of the Triglyph.
K. Plan of the upper part of the Column.
L. Section of a Mutule, view'd ſidewiſe.

A General Rule for PEDESTALS.

I uſually allow one Module for the height of the Baſe of the Pedeſtal, and half a Module for that of its Cornice. The breadth of the Plinth of the Column, always determines that of the Die of the Pedeſtal; and a third of the height of the Column, is the Meaſure for the whole height of the Pedeſtal: ſo that the Difference in height, between the Pedeſtals of my Orders, lies wholly in their Dies.

Of the IMPOSTS. *Fig.* 29.

Impoſts are little Cornices which terminate the Piedroits of Portico's, and are peculiarly appointed to receive the extreams of their Arches, with their Archivolts or Head-bands.

I uſually propoſe two Deſigns of Impoſts, different in Height and Projecture. The loweſt for Portico's where the Columns have no Pedeſtals, and the other for Portico's where they have: that is, the little Impoſts are for little Arches, and the large Impoſts for large ones; it being highly reaſonable that the bigneſs of the Impoſt ſhould be proportionable to that of the Portico.

OBSERVATION.

Care muſt be taken, that the Projecture of the Impoſt never exceed the Semi-diameter of the Column, behind; nor intercept any thing of its roundneſs, before.

* * *

Figure 30.

Of the IONIC ORDER.

THIS Order is of a delicate Compoſition with regard to the preceeding ones. Its Column is 18 Modules high; its Pedeſtal 6, that is one third of the Column; and its Entablature 4 and 10 Minutes, which is 5 Minutes ſhort of a quarter of the Column: The whole Order being in height 28 Modules 10 Minutes.

Of the INTER-COLUMNS. *Fig.* 31.

The diſtances of the Columns in this Order are adjuſted by a certain number of Denticles, which leave a convenient Space between them; with this Circumſtance, that there is always found one in the middle of each Column. Thus, when I mention 35 Denticles between the Axes of the Columns *A* and *B*; it muſt be underſtood, that there are 34 whole ones, and two halves, one at each extream: the firſt Denticle *A*, and the laſt *B*, being each cut into two equal parts by the Continuation of the Axes of the Columns. Whence it may be obſerved, that in caſe there be a neceſſity for augmenting or diminiſhing the Inter-Columns, it muſt be done by augmenting or diminiſhing the number of theſe Denticles, which however ought never to exceed one or two Denticles at the moſt.

Of PORTICO's *and their* IMPOSTS. *Fig.* 33.

The moſt perfect Arches are thoſe which conſiſt of a Semicircle; and the Impoſts are uſually placed on a level with their Centre. There are ſome Architects, however, who from an Optical conſideration, place them a few Minutes lower: and 'tis with Judgment they do it; for as the Projecture of the Impoſt hides a little part of the Arch from the Eye, 'tis but reaſonable it ſhould be lower'd a little, to leave the entire Semicircle in view, which otherwiſe would appear defective.

Of the CYMAISE *or large upper* MOULDING *that terminates the* ENTABLATURE. *Fig.* 32. and 34.

I uſually make the Projecture of the Cymaiſe equal to its height, excluſive of the Fillet a-top.

In the firſt *Tuſcan* Order the Cymaiſe is a Quarter-round: in the *Doric* it is a *Cavetto*, and in this, as well as the following Orders, a *Doucine* or upright Cymaiſe.

Of the CORONA *and its* LARMIER *or* DRIP. *Same Fig.*

The Corona is that large ſquare Moulding immediately under the Cymaiſe. It projects very much, both for the greater beauty of the Entablature and for the better ſheltering of the whole Order.

I uſually make this part ſtronger than the Cymaiſe, as being the ruling Member of the Entablature, and even of the Order. Underneath this, we uſually dig a Channel, for three Reaſons: the firſt to give it more Grace and Ornament; the ſecond to render it leſs heavy; and the third to prevent Rain or other Moiſture from trickling down along the Order. For the Water falling from the top of the Cornice, not being able to aſcend into the Channel, is forced to fall drop by drop on the Ground, by means of a little Ledge *A*; and 'tis on this account that the bottom of the Corona is called Larmier or Drip.

Of the OVOLO. *Same Fig.*

The Quarter-round underneath the Larmier is ordinarily called Ovolo; from the Figures of Eggs frequently carv'd upon it.

Of the ASTRAGAL *or* BAGUETTE. *Fig.* 35.

The Aſtragal or Baguette has the Figure of a Staff; when it is joyn'd to a Fillet *AB*, I divide the height of the Fillet into three parts, two whereof I give to the Aſtragal; and this Rule I obſerve on all Occaſions.

OBSERVATION.

This Aſtragal is frequently carv'd with Pearls and Olives, which the *French* call Patenotes.

Of the DENTICLE. *Same Fig.*

The Denticle is that large ſquare Moulding underneath the Ovolo; So call'd, beeauſe out of this Member, the Architects frequently cut a kind of Teeth, called alſo Denticles or Dentils.

REMARK. *Fig.* 36.

The Diviſion of the Denticle is ſo ordered in this Figure, as that there is a Dentil found in the reentering as well as in the projecting Angle; which occaſions a beautiful Regularity in the Soffit, not to be had in following *Vignola*'s manner.

Thoſe who will have the Denticles repreſent the ends of Rafters, will ſcarce approve of my uſing them in Angles that have no relation thereto. I ſhall beg however they'd conſider that they are here uſed no otherwiſe than as pure Ornaments; ſuch as in effect they ought to be; and not as ends of Rafters, which are never ſeen at all, excepting in Hutts and Country Cottages, which are foreign to my Subject.

Of the CAPITAL *of the* COLUMN. *Fig.* 37.

The moſt eſſential part of this Capital is the Volute, which ſeveral Architects imagine to have been intended to repreſent the Rind or Bark of a Tree incloſed between the *Abacus* and Quarter-round, having its two extreams twiſted into Scrolls, and thoſe two Scrolls bound with a large Rope in the middle; which comes pretty near the Figure that the Antients gave to the two ſides of this Capital.

Other Architects conſidering that this Capital bears ſome reſemblance to the Head-dreſs of a *Greek* Lady, believe it to have taken its origin thence: But this being a matter of no great uſe, we leave every one to judge of it as he pleaſes.

Of the manner of deſcribing the VOLUTE. *Fig.* 38.

There are various ways of deſcribing this Volute; but I ſhall content my ſelf with giving one, which is the moſt uſual as well as the moſt eaſy; being learn't without any trouble, by a bare view of the Figure. Some Architects blame it as not ſufficiently accurate; but if managed with Addreſs, it anſwers very well.

The firſt Spiral *A B C*, &c. being drawn, deſcribe the Border or ſecond Spiral, *MNO*, &c. taking new Centres near the firſt, but ſtill approaching nearer to the Centre of the Eye of the Volute, by a Space not exceeding that of a Point made with your Compaſſes.

Of the Modern CAPITAL. *Fig.* 39.

The Capital of the Antients being found improper in angular Columns, by reaſon of the Diverſity of its Faces; *Scamozzi* compos'd a new one with four ſimilar Faces, pretty much like thoſe in this Figure. Some Architects, however, won't allow the Volutes to ſpring out of the Vaſe of the Capital, but will have 'em conſiſt of one and the ſame Rind continued under the *Abacus*, which by this means will appear the better ſupported, an inſtance whereof we have in the five Orders of Monſieur *Perrault*; and they wou'd have reaſon on their ſides, were there the ſame good Taſte in this as in the other Deſign; but as that can't be, we muſt be contented with the other, which is eaſily deſign'd, and has a beautiful appearance. 'Tis true, the new *Abacus*, which it has here, being better proportion'd to the largeneſs of the Volutes, than that of *Scamozzi*, renders it the more graceful; Beſides that it is further enrich'd with little Feſtoons falling from the Volutes which ſome modern Sculptors have been pleas'd to add.

OBSERVATION. *Figure* 40.

When there are Eggs cut in its Quarter-round, their number ſhou'd be 24; and the Shaft or Fuſt ſhou'd be channel'd with an equal number of Flutings.

We ſometimes alſo cut Pearls and Olives in the Aſtragal over the Ovolo, tho' it belong to the Shaft: But were the Capital made of a matter different from that of the Shaft, then muſt the Aſtragal be conſidered as a Baguette, making part of the Capital and not of the Shaft; to which laſt the Fillet underneath wou'd be left: were it otherwiſe, the Capital wou'd be but poorly terminated by its Ovolo or Quarter-round, beſides, that it wou'd be too flat and ſquab.

Of the PEDESTAL. *Fig.* 41.

I here propoſe two kinds of Cornices for the Pedeſtal; the one Camus and Solid, to be uſed withinſides of Apartments where the Pedeſtal is to be view'd from above: the other has a Larmier, and is intended for thoſe Pedeſtals whoſe Cornices are above the Eye, and are to be view'd from below.

OBSERVATION. *Fig.* 41.

Were an Aſtragal to be placed underneath the Cornice of this Pedeſtal, as we ſee done in that of the *Corinthian*, there ſhou'd be no Table in the Die; at leaſt, if for any particular reaſon there were required one, there muſt be no Aſtragal. Nor wou'd I ever allow an Aſtragal under a Cornice that is Camus and without a Larmier, but a Table hollow'd in the manner of half this Pedeſtal, *A*. A Table under the Aſtragal wou'd make too many little Mouldings one over another; and the Projecture of an Aſtragal under a

Cornice without a Larmier wou'd make it appear too Camus: whereas the Retreat of a Table will give it a Grace, and ſeem to augment its Projecture, and render it leſs Camus, as is ſeen in the Profile *CD* of the following Figures.

Of the BASE *of the* COLUMN. *Fig.* 42.

This is that Baſe call'd the *Attic*; which is without diſpute one of the moſt beautiful ever invented. Its height is one Module; its parts are a Plinth, two *Tores* and a *Scotia* accompanied with two Fillets.

Fig.

Figure 43.

Of the ROMAN ORDER.

THIS Order reſembles the *Ionic* in its Volutes, and in the Baſe of its Column; but is much richer and more ornamental. It has ſomewhat more Elegancy, too, throughout the whole, as being ſomewhat higher, and yet it appears ſtronger; and more maſculine, by reaſon of its Modillions, and of the height of its Capital.

The Column is 19 Modules 20 Minutes high; The Pedeſtal 6 Modules and 16 Minutes, and the Entablature 4 Modules and 15 Minutes; ſo that the height of the Pedeſtal is nearly one third of that of the Column, and that of the Entablement one fourth, abating 12 Minutes and an half: The whole Order containing 30 Modules 21 Minutes.

REMARK.

There is a particular neceſſity for a rigorous adherence to theſe Meaſures, and Proportions when the Orders are ſo diſpos'd as that they may be compared together; as when one is placed upon another, where the Elegancy of each may be conſidered with regard to that of the other.

Of

Of the INTER-COLUMNS. *Fig.* 44.

As in the *Ionic* Order the Diſtances of the Columns are to be adjuſted by a certain number of Denticles; ſo in this Order they muſt be adjuſted by a certain number of Modillions; with this Reſtriction, that there be always one exactly in the middle between each Column: The Inter-Modillions having been at firſt regulated by the Diſtances that ought to be between two Columns.

Of the CONVEX FRIEZE. *Fig.* 45.

We ſometimes make the Frieze of the Entablature Convex; but then this ſhou'd never be done without ſome good reaſon; meer Caprice being not ſufficient to warrant ſuch an alteration.

When one Order is rais'd over another, and the upper Column has its due bigneſs, its Pedeſtal neceſſarily goes beyond the Naked of the under Column; which to ſome perſons has a diſagreeable effect. This inclines me to think, that the firſt Architect, who made a Convex Frieze, did it with a deſign to extenuate this appearance of a Defect. This is evident, that as the Naked of the Frieze is hidden by this ſwelling, the Pedeſtal of the upper Order appears leſs to exceed the Naked of the under Order; which may be eaſily obſerved in Figure 129. where the two Orders are ſeen over each other. Were it not on this account, the

Convex Frieze ought not in my Opinion to be imitated.

On the occaſion juſt mention'd, the Frieze may be made Convex in all the Orders excepting the *Doric*, where this ſwelling can't be allow'd, by reaſon of the Triglyphs.

Of the CAPITAL. *Fig.* 46.

In theſe two Deſigns we ſee the eſſential parts of the Capital, their Meaſures and Proportion.

The firſt ſhews the Figure of its Vaſe, with its height and breadth; here we may alſo obſerve, that the *Abacus* does not bear upon the Quarter-round, but only on the four Volutes, which ſeems to be an Offence againſt Solidity; but which, however, is not very conſiderable, as being only in appearance, there being really no Space between the *Abacus* and Quarter-round: to which it may be added, that even this apparent Weakneſs is hid, by the Volutes and the little Leaves that accompany them, as may be ſeen in Figure 48.

In the ſecond Deſign of the ſame Plate 46. we ſee the Plan of the *Abacus* with its four Horns; and how the Equilateral Triangle *ABC*, gives the point *A* whence the Sweep or Curvity is to be deſcribed.

REMARK. *Fig.* 47.

The Volutes of the Capital are leſs in this Order than in the *Ionic*; the Line *A a* being here bare 13 Minutes, whereas in the *Ionic* it is 15. CON-

CONSTRUCTION *of this* VOLUTE *or* SPIRAL-LINE. *Same Fig.*

The Eye of the Volute taking up three Minutes of the Diameter *IK*, make *AO* thirteen Minutes; then from the point 1. deſcribe the Arch *AM*, from the point 2. the Arch *MF*, from the point 3. the Arch *FG*, from the point 4. the Arch *GC*, from the point 5. the Arch *GH*, from the point 6. the Arch *HL*, &c.

From the point *K*, let fall the perpendicular *KE*, and from the point *E*, deſcribe the Arches *AB*, *CD*.

Of the entire CAPITAL. *Fig.* 48.

This Capital is uſually call'd Compoſite; as partaking of the *Doric* Order in its Quarter-round, of the *Ionic* in its Volutes, and of the *Corinthian* in its double row of Leaves underneath, which are in number ſixteen.

The Leaves I give it are of Laurel, which not being much edged or indented are leſs delicate, and for that reaſon more ſuitable to the Volutes of this Capital; which are tolerably maſſive, but agreeable to the Modillions of the Entablement.

Of the FLUTINGS. *Fig.* 48.

When we make Flutings in this Column, their number is to be twenty four, as in the *Ionic*. But to diſtinguiſh them, I make thoſe of the Compoſite flat at bottom, and only a Minute and a quarter deep, but twice as much in width.

Of the KEYS.

Keys that have a Projecture and are made in manner of Conſoles, and placed in the middle of Arches or Portico's, are particularly deſtined to ſuſtain the weight and preſſure of the Entablature, where it happens to be very great between the Columns; for this reaſon they ought to be made in ſuch manner as that they may prove a real ſupport, and not ſtand for mere Ornaments as they frequently do: without this Precaution I think they had better be entirely omitted.

Of the MODILLIONS. *Fig.* 51.

The Meaſures that I obſerve in the Modillions, both of this and the following Orders, are not barely concerted with a View to the juſt Proportion of thoſe parts, but alſo to eſtabliſh a Regularity in the parts of the Plafond or Soffit of the Cornice.

The Diſtance between one Modillion and another, depends on that between the Inter-Columns: and that Diſtance obliges us to make the Modillions of a certain height and breadth; in order to have the Spaces that ſeparate them in the Soffit, perfectly Square. Not only becauſe thoſe Squares are more regular than long Squares, but alſo becauſe they may be continued uniform through the projecting and re-entering Angles which long Squares are incapable of; as may be obſerved in the Buildings made according to the Rules of *Vignola*.

Further, in making the Diviſion of the Inter-Modillions, care muſt be taken that they have ſuch a Proportion, as that when the Orders are placed over one another, the Modillions of the lower Order be found in the ſame number with thoſe of the upper.

Of the little TALONS. *Fig.* 52.

When a little Talon or Gula ſerves as a Cymaiſe, particularly when it terminates an Impoſt, as the Talon *A* does in this Figure, or when it terminates the Cornice of the Pedeſtal as in Figure 54; I give it a Fillet ſomewhat ſtronger than what I uſe when it is found incloſed between other Mouldings. *See the* Talon *B*, *Fig.* 52.

I make the Fillet of the firſt *A*, the ſtronger, becauſe being more expoſed, it is more liable to be broken: beſides, that theſe laſt Mouldings always appear more delicate than they really are, by reaſon of the Air, which ſeems to take ſomething of their Bulk.

The height of the Fillet *A*, is half that of its Talon, and the Fillet *B*, only a third.

Of PILLARS *or* PIEDROITS.

In Portico's where the Columns have Pedeſtals, the Pillars or Piedroits ought to be four Modules in breadth; if they be more, they will be ill proportioned to their Columns; an Inſtance whereof we have in the great Compoſite Portico of *Palladio*: to which it may be added, that the Inter-Columns in that Caſe wou'd likewiſe be too big; as may be obſerv'd in the *Doric* Order of *Vignola*, where the Pillars of his great Portico being of five Modules, the Columns are found too far diſtant from one another.

REMARK.

Palladio terminates theſe Pillars with the Mouldings of the Baſe of the Pedeſtal, which he continues quite round, ſo that the Baſe of the Pedeſtal becomes confounded with that of the Piedroit: a thing in my opinion that ought to be avoided. For if thoſe Mouldings be proportioned to the height of the Pedeſtal, they can't be ſo to that of the Pillar: Beſides, that by advancing a good way within the Paſſage they become incommodious, and are ſoon broken and defaced.

Vignola terminates theſe Pillars with a plain Zocle, which here ſuits very well; and this too, is my practice.

When the Columns have no Pedeſtals, I terminate the Pillar with a Zocle equal to the Baſe of the Column. *See the* Portico's, *Figure* 44.

Names of the Parts that compoſe the Baſe of the Column. Fig. 54.

A. Upper Torus.
B. Fillet.
C. Scotia.
D. Fillet with a Baguette.
E. Under Torus.
F. Plinth.

Names of the Mouldings of the Cornice, and the Baſe of the Pedeſtal.

G. Cymaiſe, Talon, or Ogee with its Fillet.
H. Corona with its Larmier underneath.
I. Doucine or upright Ogee.
K. Upper Fillet of the Die.
L. Lower Fillet of the Die.
M. Doucine with its Fillet underneath.
N. Little Torus.
O. Zocle.

◆

Of

Of the SPANISH ORDER. *Fig.* 55.

THIS Order is more elegant than the *Roman*, both in the whole and in its Parts: and yet it has an air of ſtrength and greatneſs that becomes it very well.

The height of its Column is 19 Modules 25 Minutes; that of its Pedeſtal 6 Modules and 18 Minutes; and that of its Entablature four Modules and 15 Minutes, ſo that the height of the Pedeſtal is nearly one third of that of the Column, and the Entablature 14 Minutes leſs than a quarter of the ſame. The entire Order containing 30 Modules 28 Minutes.

REMARK *on the* INTERVALS *between the* MODILLIONS. *Fig.* 57.

The Modillions are further apart in this Order, than in the *Roman*, but leſs than in the *Corinthian*; which is a thing neceſſary, in order to be able on occaſion to place theſe Orders one over another. For as any Order ought to be leſs high than that whereon it is placed; the *Corinthian* when placed over the *Spaniſh*, ſhou'd be leſs than the *Spaniſh*, as that when placed over the *Roman*, ſhou'd in like manner be leſs than the *Roman*. So that the under Columns being bigger than the upper, the bottom of the upper may not be bigger than the top of the under, and yet their Modillions be found exactly over one another; which were things impracticable, unleſs the Modillions were at the ſame diſtance, proportionably, in all the Orders. Whence it may be obſerv'd, that 'tis not enough to compoſe beautiful Orders, but they muſt alſo be match'd and adjuſted to one another, if a Man wou'd ever have 'em go together; as 'tis frequently neceſſary they ſhou'd do. And this is what I have had a particular regard to in compoſing theſe Orders; though 'tis a matter of no ſmall labour.

Of the ARCHIVOLTE *or* HEAD-BAND.
Fig. 58.

In every Order the parts ought to have a relation to one another, as well as to their whole. Thus the ſimplicity or richneſs of the Architrave ought to determine the ſimplicity or richneſs of the Archivolte. And yet *Palladio* has neglected this Maxim of Architecture, particularly in his *Tuſcan* Order. But that's what he cannot be commended for; or rather 'tis what he ought not to be imitated in.

REMARK.

The Archivolte in large Portico's, is always one Module broad, in all my Orders; and only 20 or 25 Minutes in the little Portico's.

OBSERVATION.

In all *Vignola*'s Orders, over the Archivolte are placed triangular Tables, which Monſieur *D'Avilair* calls Timpans or Tympana; but which ought not, however, to be imitated: becauſe falling in with the Curvity of the Archivolte they ſeem to be confounded with it, and appear to augment its breadth, which has an ill Effect.

Of the CAPITAL. *Fig.* 60.

I give it eight large Leaves, ſimple, but a little waved with Grenat-Stalks, or Flowers riſing among 'em; which may be managed in various manners according to the various places where this Order is uſed.

The Horns of the *Abacus* are ſupported by little Volutes; the middle of the *Abacus* being adorned with a Lions Snout, inſtead of a Roſe. I need not mention that this noble Animal is the Symbol of *Spain*; and that it expreſſes the Strength and Gravity, as well as the Prudence of that Nation.

In the following Figure we have another Deſign of a Capital: The Architect is at liberty to chuſe which of 'em he thinks beſt; for either the one or the other will do very well, if executed by a good Sculptor.

Further, in the Friezes over this Capital, may be added a terreſtrial Globe, with Cornucopias, Palms, and Laurels, which are ſignificant Ornaments that explain themſelves.

Of

Of the FLUTINGS.

The Flutings in the ſecond Deſign of this Capital are in number 32. ſixteen whereof are hollowed Semicircularly; the other ſixteen are nothing elſe but little Fillets intermix'd. *See the following Fig.* 61.

OBSERVATION.

Columns ſtanding expoſed to the open Air, I mean thoſe on the outſide of a Building, ought not to have any Flutings; for beſides, that ſuch kind of Ornaments can't ſubſiſt any long time entire, plain uniform Columns carry always; in that caſe, a better appearance, and ſuſtain the Magnificence of the Building much better to the Eye: and the reaſon is obvious; for the Light diffuſed on fluted Columns being divided, and as it were cut by the ſtreaks of ſhadow from the Channels, the Eye, when at a little diſtance receives a faint confuſed Impreſſion: To this it may be added, that the hollow Flutings found towards the Extremities, make the Columns appear more ſlender than they really are; inſomuch, that, when viewed from any conſiderable diſtance, they ſhew mean and pitiful.

Fig. 65.

In this Plan we ſee the Compoſition of its Ornaments, and the effect that we are to expect from 'em.

The Ornaments between the Modillions may be Pomegranates, or any thing elſe that the Architect judges more to the purpoſe: and 'tis eaſy to perceive, that the Spherical Cavities where ſuch Ornaments are uſed, with the large Canal that forms the Mouchette or Chin of the Larmier, and which is hollowed into a Semicircle, will render the Cornice extreamly free and beautiful.

Of the CORINTHIAN ORDER. *Fig.* 64.

IN this Order we have yet more delicacy than in any of the preceeding ones. Its Column is 20 Modules high, its Pedeſtal 6 and 20 Minutes, and its Entablature 4 and 15 Minutes: ſo that the Pedeſtal is one third of the Column, and the Entablature 15 Minutes leſs than a fourth: the height of the whole Order being 31 Modules 5 Minutes.

OBSERVATION *on the* COLUMNS.

In Colonnades, the Columns at the Angles, that is, the firſt and laſt, ought, according to *Vitruvius*, to be bigger than the reſt, by one fiftieth part of their diameter, without which they will appear too ſlender.

We have already obſerv'd, that Objects expos'd to the open Air do ordinarily appear more delicate than they really are; the Air wherewith they are encompaſs'd on all ſides ſeeming to take off their Extremities, and to diminiſh their bulk: and 'tis for this reaſon that the Sculptors, ordinarily, make ſuch of their Figures as are to be placed without-ſide, and a-top of a Building, that is, in the open Air, much leſs delicate than the others: and 'tis very juſt in them to do ſo. But the Caſe is otherwiſe in Columns that compoſe a

Colonnade in the ſame Line, and are placed pretty near one another. An Architect, on ſuch an occaſion, has ſo many Circumſtances to obſerve, that unleſs he has a great deal of preſence of Mind, as well as a great ſhare of Experience, he'll fall into very conſiderable Errors; which he has no other way to avoid, but by ſetting this Obſervation of *Vitruvius* aſide.

OBSERVATION *on the* DENTICULE, *Fig.* 67.

I don't here divide the Denticles underneath the Ovolo, as in the *Ionic* Order: becauſe the Modillions, the Ova or Eggs and the Denticles wou'd be too many conſiderable Ornaments to go together.

Of the FLUTINGS. *Same Fig.* 67.

Were we only to have regard to this Order, the Flutings of the *Ionic* Order wou'd ſuit it very well: but when the two Orders may be compared together, as will be the Caſe if they be placed over one another, then theſe Flutings may eaſily have the additional Ornaments of a little Fillet running quite around; as in the Figure.

Of the LEAVES *of the* CAPITAL. *Fig.* 69.

The Leaves of this Capital are in number ſixteen, eight in each Row, the ſame as in the *Roman*.

Each Leaf is divided into ſeven or nine Plumes; two whereof, or to ſpeak more properly one whole and an half on each ſide go to form the Return or Deſcent. *See alſo the preceeding Figures*, 67, *and* 69.

Sometimes the Return conſiſts of three Plumes almoſt entire; each Plume being divided according to the nature of the Leaf: as is particularly ſhewn in *Fig.* 69.

REMARK.

The Leaves of the Capital are ordinarily either thoſe of Olive, thoſe of Acanthus, or thoſe of Smallage. But the firſt ought, in my Opinion, to have the Preference to the two laſt; and particularly when the *Corinthian* is rais'd over any other Order. For its Leaves being flat and plain reflect more Light than the others, which are more wrought and uneven; for which reaſon the firſt have a better Effect when ſeen at a diſtance than the laſt; which are only fit to be view'd near at hand.

OBSERVATION.

In making the Leaves of this or the *Roman* Capital, great care muſt be taken that they be well deſign'd; particularly that in dividing them into Plumes, thoſe Plumes don't run too far off from one another, but that all together appear to form one ſingle Leaf; which muſt not be too narrow towards the top: That each Plume direct to its Origin, *&c.* without which Precautions the Leaves will loſe all their Grace and Beauty.

OBSERVATION. *Figure*

If a *Corinthian* Order were to be placed very high, as in the Lanthorn of a Dome, I ſhou'd rather chuſe not to divide the Leaves of its Capital at all, but to preſerve the Maſs entire as in this Figure.

In ſome Capitals we find Leaves that are finely wrought, which nevertheleſs are of an extreamly ill Taſte; as thoſe of Olive for inſtance in the Pilaſters of *V.* de *G.* This I mention by the way, for the ſake of thoſe who, having no great ſhare of Judgment themſelves, think they can't fail of doing well, if they do but imitate what they find in Buildings of Reputation.

OBSERVATION *on the* MODILLIONS *of this* ORDER. *Fig.* 73.

Underneath theſe Modillions, 'tis uſual to have a Leaf, that takes up their whole breadth, and almoſt their whole length too. But in my opinion the Modillions wou'd be more graceful, if this Leaf were leſs both in length and breadth. For this reaſon I incloſe it between two little Liſts, wherein it ſeems as it were to be ſet, and out of which it never comes, but to form its Return againſt the little Wave of the Modillion which it joyns without hiding: From this Relation of the Leaf with the Modillion, the latter is rendred exceedingly graceful.

The Leaf of the Modillion ought to be of the ſame kind with thoſe which make the Ornament of the Capital: which is a Rule not to be overlook'd.

Of the TABLES *or* PANNELS *of the* PEDESTAL. *Fig.* 74.

The Tables in the Die of the Pedeſtal, ought to be equal to the width of the Column; that is to two Modules: now the width of the Die being two Modules twenty four Minutes, there remains twelve Minutes for the width of the Liſt that goes round it: tho' towards the bottom it muſt be ſomewhat wider, and may be pretty well fix'd at fifteen Minutes.

OBSERVATION.

When theſe Tables are of Marble, I wou'd chuſe to have them fix'd even with the Die. However, if they are to be ſunk lower, the Inequality ought not ordinarily to exceed a Minute and an half; in which Caſe they ſhou'd have a Baguette, or a little Talon or Cavetto for a Border.

Figure 78.

In theſe Tables are ſometimes added Baſſo Relievo's, which may be of Marble, of Braſs, or even of Braſs guilt: but ſpecial care muſt be taken that the Relievo never project beyond the Naked of the Die. The Sculptor therefore in this caſe muſt take a ſufficient depth for the ground of this Work, and the Work it ſelf muſt be rais'd as little as poſſible. I here ſuppoſe my ſelf talking to young People, who are yet without Experience.

OBSERVATIONS.

Some Architects bound theſe Tables with a little Border, projecting beyond the Naked of the Die; but in my opinion they ought not to be imitated herein: ſuch a projecting Moulding or Frame agreeing very ill with the Aſtragal above it, and which it ſelf projects nearly as much as the Baguette that terminates the bottom of the Corniche. To which it may be added, that ſo many little Mouldings, being found almoſt at an equal diſtance from one another, have an ill Effect: for it muſt be remembred that the beautiful Diſtribution of Mouldings conſiſts in obſerving a Diverſity in their Bigneſſes, Figures and Diſtances.

Of the BASE *of the* COLUMN. *Fig.* 75.

This is a *Corinthian* Baſe, in moſt reſpects like that uſually given to this Order. Its height is one Module, and its Projecture beyond the Naked of the Shaft twelve Minutes; as in the preceeding Orders, which have two Tores.

Some Architects make the Projecture leſs, and others more; but neither the one nor the other in my opinion have ſucceeded.

REMARK.

The two Scotias of this Baſe placed one over another in like manner as the two Baguettes that ſeparate them, don't ſeem to be well concerted. But this is ſo popular a Fault, that a Perſon who wou'd offer to correct it, wou'd be ſure to be cenſur'd. However, in lieu of the two Baguettes, a Man need only uſe one; as we ſee done in the Baths of *Diocleſian*. See *Fig*. 76.

OBSERVATION.

To raiſe an Order of Column; a Module muſt be taken of ſuch a bigneſs, as that when the Pedeſtal is deſcrib'd in its proper Meaſures, the Cornice may not be found on a level with the Eyes of thoſe who paſs, or who are to be Spectators of it; it being a pain to the Sight to bear projecting Bodies, juſt at its own height; inaſmuch as they ſeem to menace the Eye with a Rencounter.

However, if any Difficulty ſhou'd occur in adjuſting the height of the Pedeſtals to that of Porticos and Apartments that are to accompany them, one may retrench the Cornice and the Baſe, and then the Pedeſtal may be reduced to the proper height without any Reſtriction at all. *See Figures* 128, and 129.

A TREATISE OF ARCHITECTURE.

SECTION III.

Of PILASTERS.

With Uſeful Obſervations.

Of PILASTERS.

PILASTERS are ſquare Columns, as big at top as at bottom.

Theſe Pilaſters are often us'd for mere Show; as when they appear inſerted or let within the Wall, not diſcovering above a fifth or ſixth part of their bigneſs. Theſe kind of Pilaſters, which may be called flat Pilaſters, are always found to have a better effect than the others, which being entire, ordinarily appear heavy and lumpiſh.

When theſe Pilaſters accompany Columns, they ſhou'd have the ſame heights with the Columns in every part; but if they be alone, I mean if they be not accompanied with any Columns, their Meaſures and Proportions ſhou'd be varied.

Firſt, in the *Roman*, *Spaniſh* and *Corinthian* Orders, the Capitals of Pilaſters, to be well proportion'd, ſhou'd be higher than thoſe of Columns, as being broader: whence it follows that their Shafts ought alſo to be augmented in proportion.

Secondly, it may be obſerved in general, that a Pilaſter made according to the Meaſures or Proportions of a Column, that is, containing an equal number of Modules in height, appears much ſhorter, with regard to its breadth than the Column: and the reaſon is, that the ſides of the Pilaſters, being flat, appear in their full breadth; which is otherwiſe in the Column; the ſhadow of whoſe roundneſs makes it appear ſlenderer than it really is: ſo that, to make a Pilaſter appear with the beauty of a Column, the height of its Shaft muſt be augmented, as well as that of its Capital; and of conſequence the height of its Entablature, and that of its Pedeſtal muſt be augmented likewiſe.

Further, the Capital of a Pilaſter being broader than that of a Column; and the Profile of the Entablature beyond the naked of the Pilaſter continuing nearly the ſame, the Modillions are found farther apart from each other than in the Orders of Columns:

Whence it likewiſe follows that the Diſtances given for the Intervals of Columns adjuſted by a certain number of Modillions won t ſerve for the Intervals of Pilaſters, no more than they will for determining the proportion of Portico's.

And laſtly, the Modillions being further apart from each, the Cornice ought to have a greater Projecture, in order to have perfect Squares between the Modillions; whereon the Regularity of the Soffit depends.

'Tis neceſſary therefore to have particular Compoſitions for the Orders of Pilaſters, diſtinct from thoſe of Columns; for this reaſon I ſuppoſe the following ones, which anſwer to thoſe of my Orders of Columns. I have not given any particular Deſigns for their Baſes, nor for the Corniches and Baſes of their Pedeſtals; the Proportions of which parts may be taken from the Orders of Columns: and the reaſon is, that as the breadths of thoſe parts are not altered, neither ſhou'd there be any Alteration in their heights. So that the difference in height between the Pedeſtals of Columns, and thoſe of Pilaſters will lie wholly in their Dies.

Fig. 93.

Beſides the common Portico's, I likewiſe propoſe others with Breaks or Retreats, ſuch as we have in the *Val de Grace*, and which have this advantage, that one may make *Baſſo Relievo*'s over the Archivolts, which, when well managed, prove a very great Ornament to the Architecture.

Some Architects are averſe to this kind of Portico's; and may perhaps have particular reaſons for it. Be that as it will, I am of another Sentiment.

Of the Projecture of flat PILASTERS.

The ordinary Projecture of theſe Pilaſters beyond the Wall is ten or twelve Minutes; but when they terminate the Saillant Angle of a Building, their thickneſs ſhou'd, if practicable, be regulated by the parts of the Soffit or Plafond of the Cornice, as is ſeen in *Figures* 96, 97, 98, 104.

Of the FLUTINGS. *Fig.* 97.

When Flutings are uſed in Pilaſters, their number ſhou'd be ſeven on each ſide: The firſt and laſt whereof may be a little further from the Angle than the reſt are from each other; that the Extremities of the Pilaſters mayn't be too much weakned.

In ſome old Monuments we find Pilaſters which have only five Flutings on a ſide; but then thoſe are too large, and make the Pilaſters appear little and pitiful: and if there were nine, they wou'd be too fine and ſlender even for the moſt delicate Orders.

OBSERVATIONS. *Fig.* 89.

We never make Flutings in the *Tuſcan* Pilaſter; and if by chance we make any in the *Doric* (which however is very rare) we leave pretty large ſpaces next the two Extremities, in order to fortify the Angles.

One may either add a ſingle Fluting in the Projecture or thickneſs of the Pilaſter, or leave it quite plain; provided it don't exceed ten Minutes in breadth.

Obſervation on the antient IONIC CAPITAL. *Fig.* 95.

The Antients having made the Baluſter of this Capital very ſhort, one finds ſome difficulty in adjuſting the Volutes to the Quarter-round in the Capitals of Pilaſters. This has occaſioned ſeveral Architects to flatten or diminiſh the Convexity of the Quarter-round; which is a very conſiderable Irregularity, that they might have avoided by lengthning out the Baluſter ſo as to go beyond the Quarter-round; at the ſame time making the Circumvolution of the Volute advance a little farther, as is ſhewn in the Profile, *AB.*

Fig. 97.

However, if a Perſon has a mind to follow the Cuſtom, I mean, if he chuſes to diminiſh the Convexity of the Quarter-round, as is here done, he commits a Fault, that has good Authority on its ſide: which, however, he wou'd do well to avoid; eſpecially as it may be done without much trouble.

We meet with a Difficulty of the ſame kind in the Quarter-round of the modern Capital, which our Architects have likewiſe diminiſh'd, in order to receive the Volutes more favourably; which ſhou'd further have a Curvity like that of the *Abacus*, but from which a Man is under a neceſſity of receding, and of opening the Volutes, ſo as to be above the Quarter-round, after it has run perpendicularly acroſs the face of the Pilaſter: and the ſame may be underſtood of the *Roman* Capital. *See Figure* 103.

Of the RUDENTURES *or Fillings up of* FLUTINGS.

By a Rudenture we mean the Figure of a Rope or Staff cut, on ſome occaſions, in the Flutings, to ſtrengthen their ſides, and render them leſs lyable to be broken. For inſtance, when we make Fluted Columns or Pilaſters without Pedeſtals, and place them on a Level with the Ground; or at leaſt ſo little rais'd as to be within the reach of the Hand; their Flutings muſt be rudented, or cabled (as they call it) as far as one third of their height; that is, they muſt be filled up in part to that height, with theſe Rudentures, in order to ſtrengthen the ſides which might otherwiſe be ſoon defac'd.

Theſe Rudentures, which were at firſt invented for uſe, have been ſince converted into Ornaments, to enrich the Flutings; ſo that, inſtead of plain ſubſtantial Rudentures, we now frequently ſee them exceedingly weak and ſlender, being wrought in form of twiſted Ribbons, Foliages, Chaplets, and other rich and delicate Ornaments. But this kind of Rudentures ought never to be uſed, excepting in Columns or Pilaſters of Marble, and ſuch as are beyond the reach of the hands of the People.

One may likewiſe for the greater richneſs, as well as the greater eaſe ſake, make theſe Ornaments of Braſs, and even of Braſs gilt; to be fitted within the Flutings.

Theſe delicate Ornaments are alſo found to ſucceed very well in Columns and Pilaſters of Wood; where they are cut with a great deal of Eaſe and Juſtneſs.

Of ORNAMENTS *on the* MOULDINGS.

Fig. 118.

Ornaments are not always uſed on Mouldings barely to enrich them, but ſometimes alſo to diſtinguiſh them the better from one another.

As the generality of Mouldings, and in particular thoſe of Corniches, are only illumined by Reflexion, they wou'd be frequently confounded and loſt, if they were all ſimple and uniform: but a few Ornaments cut on ſome one diſtinguiſh them advantageouſly from each other. Thus the Eggs have a noble effect underneath the Larmier in the *Ionic* Order, or underneath the ſquare Member whence the Modillions proceed, in the *Corinthian*, *Fig.*67. becauſe thoſe Ornaments, being cut ſtrong and bold, make an agreeable difference between the Mouldings that accompany them.

Among theſe Ornaments ſome ſtand prominent from the Mouldings, and others are cut within 'em, as may be obſerv'd in the ſeveral Figures of this Plate 118.

Of MOULDINGS *that are to have no Ornaments.*

Ornaments are not to be beſtow'd every where indifferently. Some Members or Mouldings muſt be reſerv'd plain to ſet off the reſt; and without the Simplicity and Plainneſs of theſe, the richneſs of Ornaments wou'd only make a Confuſion in Architecture; a ſenſible inſtance whereof we have in the *Corinthian* Profile taken from the Baths of *Diocleſian*, and mention'd in the Parallel of *M. de Chambray*.

The Corona, for inſtance, is the firſt Maſter-Moulding in the Corniche, which won't admit of Ornaments, and the reaſon is, that 'tis follow'd with a Larmier, which is uſually full of very rich Compartiments, beſides the Modillions which make one of the moſt conſiderable Ornaments. It may be obſerv'd, that I now only ſpeak of the more delicate Orders; wherein Ornaments are the moſt proper.

The Faces of the Architrave ought alſo to be left plain, and particularly when the Frieze is enrich'd.

All the Fillets, Liſts or Liſtels, ought ſtill to be without Ornaments; thoſe being peculiarly deſtin'd to fix and incloſe the parts in the Mouldings wherewith they are encompaſs'd.

The Aſtragal of the Column ought always to be plain, excepting in the *Ionic* Order; where the Aſtragal of the Shaft is converted into a Chaplet of Pearls and Olives for the Capital. *See Fig.* 40.

All the parts of the Baſe of a Column ought to be plain, in order to ſerve as a Reſt to the Flutings of the Shaft. There are ſome occaſions, however, wherein the Tores may be enrich'd; of which we have a remarkable inſtance in the new Chappel at *Verſailles*: where 'tis done with a great deal of Prudence. For as nothing ſhou'd be expos'd to the Eyes of a great Prince, but what is ſome way diſtinguiſhed by its Richneſs; and as the King, here, has in ſight, the Baſes of the Columns of his Seat, 'tis but juſt they ſhou'd be enriched, like the reſt of the Chappel, which is extreamly pompous: The nobleneſs of the Architecture, and the beauty of the Painting and Sculpture, ſhewing, at the ſame time, the Magnificence and the Piety of the Founder. But ſetting aſide ſuch Occaſions, it wou'd be a Fault to adorn the Baſes of Columns; though *Scamozzi* is of another opinion.

We ſhall ſhew hereafter what is to be obſerved with regard to the grand Diſtribution of parts, plain and enriched.

A

A
TREATISE
OF
ARCHITECTURE:

SECTION IV.

Of particular Kinds of COLUMNS.

Of WREATHED COLUMNS.

THESE kind of Columns, which are pretty well known by their names, and are uſually made very rich, ought never to be uſed but in places of Diſtinction, as in Altars, Tombs, Salons and other places where Magnificence is required; an inſtance whereof we have in the *Val de Grace*.

They ſhou'd never be uſed to ſupport either Walls or Vaults, or any other conſiderable Burthen; by reaſon of their Weakneſs: nor ſhou'd any thing be laid upon them beyond a plain ſlight and delicate Entablature. For tho' they appear by their Circumvolutions to have leſs delicacy than the common Columns, yet in effect they have leſs Solidity. This is evident from the Perpendiculars *ab*, *cd*, drawn by the Cavities of their Waves; the ſolid ſpace included between the two, being conſiderably leſs in Diameter than the Column *GH*, which however is as delicate as poſſible.

The manner of deſcribing the CIRCUMVOLUTIONS *of this* COLUMN. *Fig.* 119.

Divide the Diameter of the Plan of the Column into three equal parts, *AC*, *CD*, *DB*.

On the Diviſion *CD*, as on a Diameter, deſcribe a Semicircle *CED*, and divide it into three equal parts.

From the Diviſions of this little Semicircle draw Lines parallel to the Axis of the Column *EF*.

Draw a common Column as *GH*, of the ſame height, and in the ſame Order as the Wreath'd Column to be deſign'd; but take care the Order be delicate.

Divide its Axis *GH*, into 48 equal parts, which is eaſily done by dividing it at firſt into three, then each of theſe into two, and each of theſe into two more: thus proceeding from two to two till you get the whole number 48.

Through theſe Diviſions draw Lines parallel and horizontal.

From the Points where theſe Parallels cut the perpendiculars *CI*, *DL*, &c. deſcribe the Spiral *M*, *N*, *O*, &c.

Through the points of that Spiral draw tranſverſe Lines, *P Q*, *N R*, &c. equal to the tranſverſe Lines 1, 2, 3, 4, 5, 6. *&c.* and you'll have Points ſufficient for deſcribing your Wreath'd Column.

REMARK.

The Wreath'd Columns in the high Altar of St. *Peters* at *Rome* have two Aſtragals, which divide the height of the Shaft into three parts; but theſe are not to be imitated; excepting where there are particular reaſons for it.

Thoſe in the Altar of the *Val de Grace* have an Aſtragal over the firſt third of their height; which is a judicious Contrivance to hide the Jonċture, or ſetting on of the two pieces, whereof each Column conſiſts.

But what I think inexcuſable both in the wreath'd Columns of St. *Peter*, and in thoſe of the *Val de Grace*, are the Flutings in the firſt third of their height; for theſe render the lower part of the Column more delicate than the upper part; which is the more viſible, by reaſon of the Foliages and other Ornaments that run along the upper parts, and by their Relievo ſeem to increaſe its bigneſs: For this reaſon it had been better, in my opinion, to have fluted the upper part, and either to have charged the lower part with Foliages, or to have left it quite plain and uniform.

Another thing to be cenſured in the Altar of the *Val de Grace*, is the Entablature, which is diſtributed Piece-meal over each Column: a continued Entablature wou'd doubtleſs have done much better.

Of SYMBOLICAL COLUMNS *and* HUMAN FIGURES.

THE ancient *Greeks*, to preſerve the Memory of their Victories, had a Cuſtom, in the Columns of their publick Buildings, to add Figures and Repreſentations of the Enemies they had ſubdued. The Wives of the rebellious *Carians*, when reduced to Obedience, and the *Perſians* vanquiſh'd by the *Lacedæmonians* at *Platæa*, were the firſt Subjects of theſe Columns; which have preſerved, to late Poſterity, both the Glory of the Victors, and the Diſhonour of the Vanquiſh'd.

Hence, originally, came the Names *Cariatides* and *Perſian* Columns; which have been ſince applied to all Columns made in Human Figures, though with Characters very different from one another.

Of CARIATIDES *or* CARIATES, *Columns made in the Figures of* WOMEN. *Fig.* 120.

We don't now repreſent the Cariaes, as formerly, with the marks of Servitude and Slavery: Such Characters were injurious to the fair Sex, and for that reaſon we give them others entirely oppoſite; never uſing them in Buildings, but as ſingular Beauties, and ſuch as make the greateſt Ornaments thereof. They never make their appearance, now, but under the noble Symbols of Prudence, Wiſdom, Juſtice, Temperance, *&c.*

When the Cariates are Inſulate, they ſhou'd not have any Weights to ſupport, greater than thoſe of Balconies, little Galleries, or ſlight Crownings; and their Entablature may be *Ionic.*

The Cariates ſhou'd always have their Legs pretty cloſe, the one a little a-thwart the other, with their Arms either joyn'd to the Body or to the Head, or at leaſt but very little aſunder; that, as they do the Office of Columns, they may, as much as poſſible, bear the Figures of them.

There is this particular defect in the Cariates, that being the Figures of Women, they don't ſeem altogether proper to do the Office of Columns: but this is eaſily amended when they join to a Wall, there being nothing to do in that Caſe but to place a Conſole over 'em, which ſhall appear to bear all the weight of the Entablature. This will have a good Effect; and the

Cariates will ſerve for Columns; without appearing over-burden'd.

If the Cariates have a Projecture beyond the Wall in the manner of Pilaſters, they may be uſed in the Architecture of a Gallery or Sallon; provided they be'nt made to ſuſtain any thing but the Entablature; the weight of the Vault being born by the Wall behind, which ſerves them as a ground or bottom.

OBSERVATION. *Figure* 121.

The Cariates ſhou'd never be made of an immoderate Stature; leſt being too big, they become frightful to the Ladies. For this reaſon one won'd ſometimes chuſe to confine them under the Impoſt of a Portico; ſuch Impoſts ſerving them for an Entablature. Further, on occaſion, one may raiſe them on Pedeſtals, which however muſt not have leſs than one third of their height. And if beſides this, one place Conſoles over their Head, the Figures may be made of a reaſonable ſize.

OBSERVATIONS.

The Cariates and the common Columns ſhou'd never be uſed together, under the ſame Entablature; for beſides that there can never be a juſt Symmetry between them; the Figures of Women as high as common Columns wou'd be monſtrous, and make all the reſt of the Architecture appear mean and pitiful.

There are ſome Cariates that have their Arms cut off; as thoſe, for inſtance, in the Hall of the *Swiſs* Guards in the Old *Louvre*. But theſe kind of Mutilations, which are only uſed to make the Figures more light and delicate, or rather to make 'em more conformable to the other Columns, are only proper for *Termini* or Terms, which are a kind of half human Figures ſeeming to proceed out of a Vagina or Sheath, as in the following Figure 122.

OBSERVATION.

The Cariates muſt always appear in Characters proper to the places they are uſed in. Thoſe for Inſtance, which ſupport the Crowning of a Throne ought to be Symbols, or Repreſentations of Heroic Virtues. Thoſe that ſerve as Columns in a place of Devotion, ſhou'd bear the Characters of Religion: and thoſe, again, in Halls and Banquetting Rooms, carry the Marks of Gladneſs and Rejoycing.

OBSERVATION.

'Tis not proper to uſe Cariates in the Figures of Angels, excepting at Baldaquins and Altars; and ſuch as do appear under that holy Form, ought, in my opinion, to ſupport the Entablature with their Hands, as bearing it eaſily, and without trouble. *See Fig.* 120.

The Entablature ſupported by Angels may be *Corinthian*, and the Virtues *Ionic*; and both the one and the other ſomewhat leſs maſſive than ordinary.

Of Perſian COLUMNS. *Fig.* 120, 121.

Theſe Columns are uſually made in form of robuſt Men, with long Beards; and ſuch Figures are much fitter to repreſent an unhappy Slavery, than thoſe of Women.

The Character of Slavery is expreſs'd in theſe Figures, either by tying their Hands before, or behind their Backs.

Columns of this kind may be very properly uſed in a Cabinet or Gallery of Arms, in Prince's Palaces; in which caſe they may be made Gigantic, as in Figure 121. and their Entablature *Doric*.

We wou'd not however inſinuate that the Figures of Men are always marks of Slavery: They are frequently uſed as Symbols of Virtues and Vices; of Joy, Strength, Valour, and even of fabulous Deities: as when they are made in the Figure of *Hercules* to ſignify Strength, of *Mars* to ſhew Valour, of *Mercury* to repreſent Dexterity, and of *Fauns* or *Satyrs* to inſpire Mirth and Jollity.

Of TERMINI *or* TERMS. *Fig.* 122.

Termini are another kind of Symbolical Columns in human Figures, that appear with a half Body, as if they proceeded out of a Sheath or Caſe.

To give 'em a Figure proper to repreſent a delicate Column, their Arms are lopp'd off, and their Body does not appear below the Girdle; an inſtance whereof is ſeen in Figure 122.

Theſe Termini are very proper in the Decorations of a Theatre, as alſo in pieces of Architecture *de Treillage*, or of the crail'd Work kind.

OBSERVATION.

The Termini have this in common with the Cariates, that they ſhou'd never be brought to match with the common Columns: This advantage, however, they have in particular, that a Man may give them what degree of delicacy he pleaſes, by lengthning out their Sheath, and raiſing the Figures to any height deſired. By this means they'll be made to ſuit gay airy Architecture; ſuch as Cabinets, Sallons and Arbours of crail'd Work, eſpecially require.

OBSERVATION.

'Tis not reaſonable, in my opinion, to reduce the Figures of Angels into Termini; though we ſee it has been formerly done in places of Diſtinction.

Of ARCHES *or* PORTICO'S *ſupported by* COLUMNS. *Fig.* 123.

We have but few Inſtances of ſuch pieces of Building; though nothing hinders but they may be uſed, where the Architecture is not required to be very ſtrong, as in a plain open Gallery, ſerving for a Paſſage or Communication between two parts of an Houſe; or where 'tis deſired to have a ſlight Terraſſe in the Front of a Building, and a Gallery or Portico underneath; as in this Figure.

In a Portico of this kind, I wou'd have nothing but the Archivolte upon the Column: the Corniche ſhou'd be placed over the Archivolte as in this example.

If a Man wou'd have a Gallery in Treillage or Crail'd Work between two grand Cabinets, he may ſupport it by Termini inſtead of Columns.

Of ENTABLATURES *that have* BREAKS, *or that project unequally. Fig.* 124.

The Entablature is ſometimes made to give back or retreat a little between the Columns: but ſuch Breaks ſhou'd never be uſed but on extraordinary Occaſions, and for ſpecial Reaſons, as where there are not large Stones ſufficient to carry out the whole Entablature to its due pitch; or where a great Projecture between the Columns might intercept the Light neceſſary underneath, or prevent the view of any thing above; as in this Example, and in the Triumphal Arch, *Fig.* 142. where the Baſſo Relievo's in the *Attic* cou'd not be ſeen, but from a great diſtance, if the Entablature had all the Projecture which that of the Columns might give it. It muſt not, however, be forgot, that the principal end of the Entablature is to ſhelter what is underneath; which in this caſe it only does by halves; as having nothing beſides the bare Projecture of the Corniche for that purpoſe.

Of the ATTIC ORDER. *Fig.* 124.

This Order is a kind of rich Pedeſtal. Some Architects, on occaſion, give it the ſeveral Capitals of all the Orders of Columns; but the *Ionic*, *Roman* and *Corinthian* don't at all become it. The beſt way, in my opinion, is only to diſtinguiſh the Capitals by a difference in their Mouldings; which may be made more or leſs ſimple, and more or leſs delicate, according to the relation they are to bear to thoſe in the Architecture underneath.

OBSERVATION.

We alſo give the name *Attic* to the whole Story, wherein this Order enters; this little Order being always found over another that is greater.

This Pedeſtal or falſe-Pilaſter ought always to have the ſame breadth with the Column or Pilaſter underneath, and its height may be equal to a third, or even a half of the ſame Column or Pilaſter, by which it is ſupported.

A
TREATISE
OF
ARCHITECTURE.

SECTION V.
Of the Aſſemblage of ORDERS.

Of the ASSEMBLAGE of ORDERS.

OBSERVATION I.

WHEN two Columns are placed over one another, they muſt be of different Orders; the ſtronger always to ſupport the weaker. For inſtance, the *Doric* may be placed over the *Tuſcan*, the *Ionic* over the *Doric*, the *Roman* over the *Ionic*, the *Spaniſh* over the *Roman*, and the *Corinthian* over the *Spaniſh*.

OBSERVATION 2.

The upper Order muſt always be leſs Maſſive than the under, agreeable to the Maxim, that the ſtrong ought to ſupport the weak.

OBSERVATION 3.

The Columns ought to ſtand exactly over each other, ſo that their two Axes may be both found in the ſame perpendicular.

OBSERVATION 4.

The diſtances between the lower Columns muſt be determin'd by the Intercoluminations of the Order, that is without Pedeſtals; and the diſtances of the upper Columns by the Intercoluminations of the Order with Pedeſtals: taking care by the way that the firſt Order be mounted on a pretty high Zocle, or on an aſcent of ſeveral Steps, to ſerve inſtead of a continued Pedeſtal or Foot. *See Figures* 125, 126, 127, 128, *and* 129.

To the upper Order I give a Pedeſtal, becauſe, being confin'd to the breadth of the Intercolumination of the lower Order, its Columns, by this means, are rendered ſmaller; inſomuch that the diameter of their Baſe does not exceed that of the top of the under Columns, which is a Rule that ought not to be diſpenſed withal.

REMARK.

Vitruvius won't allow the upper Order above three quarters of the height of the under. But if this Reduction were followed, the Columns wou'd be too ſmall, and of conſequence too far aſunder, with regard to their height, when placed over others.

How to find the Module of an Order that is to be placed over another? 'Tis here propoſed for inſtance to place the IONIC *Order over the* DORIC. *Fig.* 126.

Conſider firſt, that in the *Doric* Order without a Pedeſtal, *Fig.* 17. which is to give you the Meaſures of that firſt Order, the Columns are placed at the diſtance of 11 Modules from each other, in Portico's. That in the *Ionic* Order with a Pedeſtal, the Columns are 15 Modules apart; and that to place this Order upon the *Doric*, you muſt divide the Intercolumn *AB*, or its equal *CD*, into 15 equal parts; one of which 15 will be the Module for raiſing the *Ionic* Order with its Pedeſtal, according to *Fig.* 33.

OBSERVATION.

When two Portico's are placed over each other, the higher ought to be regulated by the lower: I mean the width of the upper Arch ſhou'd be made equal to that of the under; it being but juſt that the two

Arches ſhou'd have the ſame width. On ſuch an occaſion, one may make the lower Arch 10 or 12 Minutes narrower than uſual; that the width of the upper Arch may be the better proportioned.

Fig. 127.

When Columns are to be without Portico's as in this Figure, one need only make 4 Triglyphs between the *Doric* Columns, that is, an Interval of 8 Modules 24 Minutes; which are equivalent to 12 Modules in the *Ionic*; as appears by the Rule of Proportion; and the ſame thing may be obſerved of coupled Columns.

REMARK. *Same Fig.*

The *Roman* Order does not match perfectly well with the *Ionic*. Becauſe its Capital is higher with regard to its Column, than the *Ionic* Capital, with regard to the *Ionic* Column; and becauſe the Denticles of the *Ionic* appear ſomewhat weak underneath the Modillions of the *Roman*. However, the *Roman* Order being, in this place, leſs than the *Ionic*, the Diſproportion between their Capitals becomes leſs ſenſible, as well as that between the Denticles of the one, and the Modillions of the other.

How to find the MODULE *for raiſing a* CORINTHIAN *over a* SPANISH *Order. Fig.* 130.

'Tis evident that the Modillions of the upper Order muſt be the ſame in number with thoſe of the under, in order to have 'em exactly over one another. Thus the Modillions between the *Spaniſh* Columns *A* and *B*, being in number 11, there muſt likewiſe be 11 between the *Corinthian* Columns over 'em.

Now the Inter-modillions of the *Corinthian* Order containing juſt 40 Minutes where the Column has no Pedeſtal, theſe 40 Minutes muſt be multiplied by the number of Modillions, that is, by eleven, the Product whereof will be 440, and this divided by 30, the Module, the Quotient will be 14 Modules 20 Minutes, which is the Diviſion of the Scale *CD*, for raiſing the *Corinthian* Order.

How to divide the INTER-COLUMN, CD, *into* 14 *Modules* 20 *Minutes.* Same Fig.

Draw at random the Line *CE*, making an Angle with *CD*.

Take any diſtance at pleaſure, for inſtance, *CG*, and ſet it off 14 times on *CE*. This done, divide the laſt, as we divide the Module; that is, into 30 parts, 20 whereof add to the 14 Modules *CI*.

Laſtly, draw the Line *DE*, and its Parallels *IS*, *LM*, &c. and you'll find *CD* divided into 14 Modules 20 Minutes, according to *Prop.* 48. *Lib.* 3. of my Geometry.

OBSERVATION. *Fig.* 131.

One finds a Difficulty in placing three Orders over each other; and it conſiſts in this, that the ſecond Order having a Pedeſtal, the Columns of the third become a little too big at bottom: though 'tis ſo very little that the Eye can hardly perceive it. This Inconvenience, however, may be remedied by taking the exceſs imperceptibly away, wholly from the Baſe of the Column: 'tis true, this will occaſion a little Swelling, but that won't do any harm.

OBSERVATION.

It wou'd not be proper, in my opinion, to undertake the placing of more than three Orders of Columns over one another. For, beſides that in the fourth Order the Columns wou'd be too far aſunder with regard to their height, it muſt likewiſe be conſidered, that four Columns rais'd over one another, can't well be very ſtrong: indeed the firſt may have a Ruſtic Order whereon it is raiſed, and which may ſerve it as a Foot.

Of PILASTERS *raiſed over one another. Fig.*132.

Pilaſters are to be rais'd over one another according to the preceeding Rule. 'Tis deſired for inſtance, to place the *Corinthian* Order over the *Spaniſh*, and 'tis ſuppoſed that in this Figure the Pilaſters *A* and *B* are ten Modillions apart; there muſt therefore be ten Modillions between the Axes *C* and *D* of the *Corinthian* Order: and, as the *Corinthian* Inter-modillions conſiſt of 41 Minutes and a quarter, the whole diſtance *C D*, will be found equivalent to 13 Modules 22 Minutes and an half, which being divided in the manner already ſhewn, *p*. 125. you'll have a Scale for raiſing the *Corinthian* Order.

The upper PILASTERS *to be leſs than the lower. Fig*. 132.

As Pilaſters are of the ſame bigneſs from top to bottom, one wou'd imagine at firſt ſight, that to preſerve a Regularity, the Pilaſters placed one over another ſhou'd likewiſe be of the ſame bigneſs; but there are two reaſons which oblige us to recede from this Rule.

The firſt is, that as the Orders increaſe in Delicacy, they likewiſe increaſe in height with regard to their bigneſs: ſo that were the Module to continue the ſame in the upper and the under Pilaſters, the Conſequence wou'd be, that the Orders and Stories wou'd increaſe in height in proportion as they riſe over one another, which wou'd be prepoſterous.

The ſecond reaſon is, that if there ſhou'd be Columns along with the Pilaſters of the lower Order, as in *Fig*. 155. the Diameter of the upper Pilaſters wou'd be bigger than that of the top of the Columns underneath, which wou'd be another Fault.

One ſhou'd never, therefore, place two Pilaſters of the ſame bigneſs over one another, unleſs the upper be *Attic*, as in *Fig.* 124.

REMARK.

In the Aſſemblage of Pilaſters, all that is required is to examine how big the Baſe of the upper Pilaſter may be, with regard to the top of the under: for the Pilaſters being always equally big at top and bottom, it follows inevitably according to my Rules, that by obſerving the ſame number of Modillions in the two Orders, the upper Pilaſter always becomes leſs than the under, as in effect it ſhou'd be.

OBSERVATION *on the* INNER *or* RE-ENTERING ANGLES. *Fig.* 133.

In the Orders of Pilaſters, I wou'd always have the Inner Angles accompanied and ſtrengthned with two flat Pilaſters, one on each ſide, at an equal diſtance from a third, but within the Angle, as appears by the Plan of this Pilaſter *A*.

On ſome occaſions one need only place a ſingle Anta in the Angle between two Pilaſters; as when the Capitals of the two entire Pilaſters approach very near each other.

By Anta I mean a kind of Shaft of a Pilaſter without Baſe or Capital, and even without any Moulding.

OBSERVATION. *Same Fig.* 133.

Tho' theſe Columns be Conjugate or coupled, and for that reaſon can have but one common Pedeſtal, yet 'twou'd not be amiſs, if on this occaſion they appear'd to have each its ſeveral one; which may be had by means of a little Indenture or Retreat, *B C*, not exceeding a Minute in depth.

REMARK.

Pilaſters ſplit or cloven from top to bottom in an inner Angle never have a good Effect; for beſides that their halves have no Symmetry with the entire Pilaſters that anſwer to them, their Capitals do likewiſe become very defective, as is particularly ſeen in the Church of *Val de Grace*.

OBSERVATION. *Fig.* 134.

When Columns and Pilaſters are placed under the ſame Entablature, the Entablature muſt be that of the Columns.

When Columns and Pilaſters are placed under the ſame Entablature, they ſhould never, if poſſible, ſtand in the front Line, by reaſon of the manifeſt Irregularities that wou'd follow thereupon; they muſt therefore be ſeparated by a Reſſaut or Difference in the Range.

A

A Reſſaut can never conſiſt of leſs than an entire Modillion, without ruining the Regularity of the parts of the Soffit of the Corniche.

Further, if the Reſſaut don't exceed a Modillion, the Column will remain engaged in the Body of the Building, as apppears by the Plan *A*.

When this Column is allow'd to be thus engag'd in the Body of the Building, it muſt have a Pilaſter by its ſide, to make a Symmetry with that on the other ſide the Window, which the Column cou'd not well do: beſides, that without this Pilaſter the Angle or corner of the Building wou'd be too weak.

But if one wou'd have the Column entirely diſengaged, as it appears in Figure *B* of the ſame Plate, the Reſſaut or difference of Range in that caſe muſt conſiſt of ſeveral Modillions; and behind the Column muſt be a Pilaſter, beſides that which makes the neceſſary Symmetry with the Window.

OBSERVATION.

When Pilaſters accompany Inſulate Columns, and ſerve them as a Ground or *arriere Corps*, as in this Figure, they ought to be at a competent diſtance from each other, to prevent their Capitals from Interfering; which is a conſiderable Fault that we find frequently committed, but which, however, ought to be carefully avoided.

In this Figure is repreſented a Reſſaut, where the Line of Columns advances forwards, with regard to the Pilaſters which are ſunk behind. In the following

Figure is a Reſſaut where the Columns retreat backwards, with regard to the Face of the Building and the Line of Pilaſters, which ſtands forwards.

OBSERVATION. *Fig.* 136.

Where Pilaſters are placed under an Entablature of Columns, by way of Ground or *arriere Corps*, as was juſt now ſuppoſed, there ariſes a conſiderable Difficulty; and 'tis this.

I have already ſhewn that in the Orders of Pilaſters, the Modillions muſt of neceſſity be further apart than in the Orders of Columns.

Now ſuppoſe this Exceſs to be of 4 Minutes in the *Spaniſh* Order; here then are 4 Minutes to be regain'd on the breadth of the Pilaſters, and on that of the Modillions and Inter-Modillions, in order to adjuſt the Pilaſters of this Order to the Columns: But the Pilaſters behind the Columns muſt be excepted out of the Diminution; becauſe being very near the Columns, neither their Baſes nor Shafts can loſe any thing of their breadth, without its being perceived. So that the whole Reduction will lye on the Pilaſters *A* and *B*, which are by the ſide of each other.

Firſt then the Pilaſters *A* and *B*, may be each two Minutes leſs in breadth without its being diſcovered, in regard the Eye can't compare theſe at one Glance, with thoſe behind the Columns: but this Diminution being no more than a Minute on each ſide, there will ſtill remain three to be gain'd out of the Modillions and Inter-Modillions. The Modillions therefore muſt be made a little broader than thoſe in the Entablature of Columns, and the Inter-modillions the ſame; and if with this, the ſtrength of the Modillions be likewiſe a little increaſed, we ſhall have perfect Squares in the Larmier to ſeparate them from each other; and by this means the Order of Pilaſters will be brought to agree very well with that of the Columns.

OBSERVATION.

When a Pilaſter is placed behind a Column, the breadth of the upper part of its Capital ſhou'd be reduced to that of the upper part of the Capital of the Column; to the end that, their Baſes being of the ſame breadth, their Abacus and Volutes may be ſo too.

A TREATISE OF ARCHITECTURE.

SECTION VI.

Of GATES *or* DOORS, WINDOWS, PEDIMENTS *and* NICHES.

Of GATES or DOORS.

GATES or Doors are either large, moderate or little. The Large ought to be arch'd to an entire Semicircle; the Moderate may either have a Semicircle or an Arch ſomewhat leſs; and the Little ones muſt be ſquare; excepting they ſerve for ſubterraneous Paſſages; which being uſually vaulted, their Doors muſt be arch'd likewiſe.

All regular Gates have three principal parts; thoſe with Arches have Piedroits or Jaumbs, Impoſts, and Archivolts; the ſquare ones have a Chambranle or Door-Caſe, a Frieze and a Corniche.

Each kind of Door is ſometimes accompanied with an Order of Columns or Pilaſters.

When they are ſo accompanied, they are uſually crown'd with a Pediment, and ſometimes alſo with a Balcony.

Square Gates, without any Order of Columns or Pilaſters, have their Corniches frequently ſupported by Conſoles; particularly where thoſe Corniches have a little Projecture for a Shelter to Perſons underneath 'em.

Of the Proportion of GATES.

The ordinary proportion of Gates is to have their Height double to their Width: this Rule, however, is not ſo inviolable, but that they may have a little more, or a little leſs, height on occaſion.

REMARK.

Gates are call'd *Tuſcan*, *Doric*, *Ionic*, &c. according to the Relation which their Impoſts, Corniches, and Chambranles bear to the Parts and Mouldings of thoſe Orders.

REMARK.

Beſides Gates in the regular Architecture, there are others of the *Ruſtic* Order, which in their kind have very ſingular Beauties, and ſuch as, in ſome places, are more ſuitable than any others that could be uſed; particularly in the Entries of great Houſes, where the Front has no regular Order of Architecture.

REMARK. *Fig.* 138, 139.

Coach-Gates and others of a middle kind are uſually made with two Leaves or Folding-doors; and, when they are a little bigger than ordinary, have a Dormant, (i. e. *the upper part of the Gate that does not open*) which Dormant, where the Gate is arch'd, commences from the Spring of the Arch.

REMARK.

In one of the Folding-doors is uſually a Wicket or little Gate, through which People on foot ordinarily paſs.

OBSERVATION. *Fig.* 140.

Gates of Gardens, Parks, *&c.* have uſually a kind of Pillars behind, call'd Buttreſſes or Counter-Forts, as in the Plan of this Gate. Theſe Pillars ſhou'd reach far enough inwards to receive and ſtay the Leaves or Folding-doors, as alſo to ſupport the Stones or Barriers placed there for their ſecurity.

REMARK.

It may be eaſily concluded that theſe Buttreſſes are only uſed in ſuch Gates as have no Lodgement to ſuſtain 'em.

Fig. 140.

Theſe kind of Gates may alſo have Buttreſſes on their Sides, with Conſoles both to ſupport the Architecture of the Gate, and alſo to add a Grace and Ornament to it; eſpecially where the Wall is low, and the Gate high and magnificent.

OBSERVATION.

A Conſole, in my opinion, ſhou'd always have ſomething exceedingly maſſive to ſuſtain and ſerve it as a Reſt, when rais'd, as in this Example.

Fig. 141.

The Sweep, with the Archivolt, of any great publick Gate, as that of a Place Royal, may be ſupported by Pilaſters, which will make a Symmetry with the Ground Story, and may conſiſt of Columns ſupporting a Terraſe or Balcony, to be continued quite round the place.

OBSERVATION. *Fig.* 142.

Large Gates, as the preceeding one, which are never ſhut, and are principally intended to ſhew the Magnificence of Princes and People, ought to have a noble and rich Compoſition, with great Streets anſwering to 'em. Triumphal Arches, in a peculiar manner have their Appearance enobled by large Avenues, which ſhew them at a great diſtance.

OBSERVATION.

Theſe grand Triumphal Gates ſhou'd always be accompanied with two little ones for the Paſſage of People on foot.

OBSERVATION.

The Vaults or Ceilings of theſe Gates ſhou'd be enrich'd with Compartiments of beautiful Sculpture, to make the Paſſage through them the more pleaſing.

OBSERVATION.

The Avenue on the ſide of the Champaine ſhou'd always conſiſt of large Trees planted in parallel Lines, with an Interval equal to the breadth of the whole Triumphal Arch, that the Beauty and Magnificence of the Ediſice may ſtrike the Eye at once, and from a great diſtance.

OB-

OBSERVATION. *Fig.* 143.

When a little Door is made in the Front of an ordinary but regular Building, it ſhou'd be rais'd to the juſt height of the Windows that accompany it, but its breadth muſt a little exceed that of the Windows; leſt, while it is adjuſted to the reſt of the Building, it appear ill proportion'd in it ſelf.

If 'tis deſired to have the Door adorn'd with an Order of Columns or Pilaſters, it muſt be rais'd higher; ſee the firſt *Facade* or *Front* in this Plate, where the Plat-Band *E F* being continued, ſerves as an Impoſt to the Door, terminating the firſt Story, and ſhewing where the ſecond commences.

A. Firſt Story.
B. Second Story.
C. Third Story.

According to the common Uſage, *B* is the firſt, *C* the ſecond, *D* the third, *&c.*

Of WINDOWS. *Fig.* 143.

Windows, as well, as Gates differ both in their Bigneſs, and in their Architecture. The biggeſt are ſeen in Churches, and are uſually arch'd to a Semicircle.

The moderate ones frequently terminate in an Arch leſs than a Semicircle. As to the ſmall ones, they are uſually long Squares; their height being ſometimes double their width, or very nearly ſo.

Both the one and the other are made more or leſs ſimple, or more or leſs rich, according to the Place, and to the Architecture of the Buildings where they are uſed.

OBSERVATION. *Same Fig.*

In the *Facade* or Front of a Building, the Windows ſhou'd be exactly perpendicular under one another; and to that end care muſt be taken that they be all of the ſame width: but in different Stories, their height may be different.

Thoſe of the loweſt and the uppermoſt Stories may be leſs high, as well as leſs adorn'd, than thoſe of the middle, which are uſually for the Maſter's Story.

OBSERVATION.

The width of the Windows, with regard to that of their Jaumbs, that is, with regard to the breadth of the Wall between two Windows, may be as 3 to 4 in temperate Climates, like that of ours; or as 3 to 5 in Climates that are colder or more hot: or as 3 to 6 in Countries ſtill more expoſed to violent Heat, or violent Cold; but the various Situations of a Building with regard to *Eaſt* and *Weſt*, will always occaſion a Variation in the proportion of the Windows themſelves. See *Vitruvius* on the Subject.

REMARK. *Fig.* 144, 145.

The Deſigns of Windows, given us by *Vignola*, do very well, as reform'd by *M. d'Aviler* in the Tranſlation he has made of that Author: the Compoſition whereof is ſhewn pretty accurately in theſe two Deſigns or Figures: However, 'tis uſual to have Windows much leſs adorn'd; and we often make them without any Ornament at all, beſides a Plat-Band around them, and that too; in fine Buildings. *See Fig.* 143.

OBSERVATION.

Large Windows ſhou'd have a Corniche that projects pretty much, to be a ſhelter to thoſe who preſent themſelves at it; and in that caſe the Projecture ſhou'd be ſupported by two Conſoles, as well as the Reſt or Leaning Place that terminates the Window at bottom.

OBSERVATION.

The Conſoles of the Corniche ſhou'd be as big at bottom as at top, that they may fall in regularly with the Jaumb and Chambranle.

OBSERVATION.

The breadth of the Chambranle or Window Frame may be a Sixth part of that of the Window.

REMARK.

Without the Chambranle is a Plat-Band, ſerving it as an *Arriere-Corps*, called a Montant or Window-poſt, which may have an equal breadth with the Chambranle, or on occaſion a little leſs. It ſerves particularly to place the Conſoles of the Corniche upon.

OBSERVATION.

If the Corniche be not ſupported by Conſoles, this Plat-Band ſhou'd be then narrower by one half; and without any Mouldings beſides thoſe that compoſe its Corniche.

OBSERVATION.

The Conſoles, that ſupport the Reſt or Bottom of the Window, ſhou'd be placed underneath the Chambranle, and be equal to it in breadth, and their Wreathings may be made to run out on the ſides.

OBSERVATION.

The height of theſe Conſoles muſt not exceed half that of the opening of the Window at the moſt, nor fall ſhort of a third of that opening, when the leaſt.

OBSERVATION.

They are uſually made narrower at bottom than at top, but in my opinion 'twou'd be better to have 'em equally big.

REMARK.

The top of the Perron or Aſcent frequently terminates the bottom of theſe Conſoles.

Of LUTHERNS *or* DORMERS. *Fig.* 146.

We call Lutherns, thoſe Windows rais'd over the Corniche of a Building, and in the Roof of the Houſe.

Lutherns ſhou'd be built on the Wall, and ſtand very upright. Being now much in uſe in Houſes of indifferent Architecture, 'tis become a Cuſtom to cut off that part of the Corniche directly underneath 'em, that it mayn't intercept the view of what paſſes below. But this ſhou'd never be practiced in Palaces or Buildings of Magnificence; ſuch Notches in the Corniche having a very ill effect, outwards; which muſt be carefully avoided, though to the prejudice of thoſe People who may chance to poſſeſs theſe upper Stories,

Of the ſeveral STORIES *in the height of a* BUILDING *of the ſame Order of* COLUMNS *or* PILASTERS. *Fig.* 147.

In a publick Place, intended for the Magnificence as well as the Convenience of a City, the Buildings cannot be too ſtately: Now, as nothing carries more ſtate with it, than one grand Order; this is what muſt be thought on in the firſt place: However, as Conveniency on this occaſion is to be inſeparable from Magnificence, I think two Stories may be allow'd in the height of this one Order: and if the whole be rais'd on a *Ruſtic* Order, 'twill be a great addition to the beauty of the Ordonnance. This is what we ſee practis'd with ſo much ſucceſs in the Building of the *Place de Vendôme*, and that *des Victoires*.

Over this grand Order, one may raiſe a Baluſtrade, to make it terminate the more agreeably, and to conceal, in ſome meaſure, the Roof, which is never found any great Ornament to a beautiful Building.

Inſtead of Pilaſters, one might place an Order of Inſulate Columns with a Corridor or Gallery behind; which would be ſtill infinitely better.

◆

Fig. 148.

Of PEDIMENTS.

BY Pediment we mean the Crowning frequently ſeen over Gates, Doors, Windows and Niches; and ſometimes over entire Orders of Architecture. The Ridges of ordinary Houſes, were, what gave Architects the firſt Idea of this noble part.

The parts of the PEDIMENT *are the* TYMPANUM, *and its* CORNICHE.

By Tympanum we mean the Area or Space included between the Corniche which crowns it, and the Entablature which ſupports and ſerves it as a Foundation.

Fig. 149.

The Tympanum is either Triangular or Circular. The Triangular, the Workmen call pointed, the Circular they call arch'd.

OBSERVATION. *Fig.* 148.

The Naked of the Pediment, *i. e.* the Tympanum, ought always to ſtand perpendicularly over the Frieze of the Entablature underneath, as the Tympanum *A*, which is in the ſame perpendicular with the Frieze *B*.

OBSERVATION. *Same Fig.*

The Modillions of the Corniche of the Pediment ought to be found in the ſame perpendicular with thoſe of the Entablature underneath.

OBSERVATION. *Fig.* 150.

That part of the Corniche whereon the Pediment ſtands, ſhou'd not have any Cimatium; in regard the Cymatium of the reſt of the Entablature, when it meets the Pediment, paſſes over it: but this change of Determination occaſions a very conſiderable Difficulty; and 'tis this.

If the Cymatium were carried over the Pediment, beginning juſt at the Angle of the Corniche, as one wou'd imagine it ſhou'd do; it wou'd be conſiderably widen'd, in regard that Angle is acute. But this wou'd be a conſiderable Eye-ſore, both on account of the inequality of its width, and becauſe it wou'd be rendered too ſtrong and heavy for the Corona.

Some Architects, to reduce this Cymatium to a proper width, make the Horizontal Cymatium that ſupports the two ſides of the Pediment very flat, as we ſee done over the great Door of the *Minimes* in the *Place Royal*; but this is to prevent one Deformity, by putting another in its ſtead.

Other Architects make a little Retreat or Elbow as the Workmen call it, at the extremity of the Cymatium of the Pediment; much after the manner of this Figure; and this Expedient in my opinion is preferable to any of the reſt.

It here appears very evidently, that if the Cymatium *A B*, were to paſs over the Pediment, commencing from the Point *B*, it wou'd have the whole Breadth, *C F*. whereas by commencing from the Croſſette or Elbow *D*, it has only the breadth *E F*, which is the juſt breadth the Cymatium ſhou'd have according to my Rules.

Sometimes the Pediment does not commence from the Extremity of the Corniche; but in that caſe, too, there are Difficulties, which we ſhall take occaſion to examine hereafter.

Vitruvius obſerves, that the Ancients did not approve of Modillions in the Corniche of a Pediment, and the reaſon they gave for it was, that Modillions being only intended to repreſent the ends of Rafters, it wou'd be abſurd to uſe 'em in the Declivity of a Pediment where no Rafters are ſuppoſed to be. But the truth is, theſe Modillions are rather Ornaments to ſuſtain the great Projecture of the Corona or Larmier, than to repreſent the ends of any Rafters, or other pieces of Wood; and therefore it wou'd be a Weakneſs to be influenc'd by ſuch imaginary Reaſons; the rather becauſe theſe Ornaments have a very good Effect, and eſpecially when uſed in large Pediments.

OBSERVATION. *Fig.* 151.

A Triangular Pediment may ſerve to crown three Arches, but a circular Pediment can't properly crown more than one: and the Centre of the Sweep of the Gate or Arch, ſhou'd be uſed for deſcribing the Sweep of the Pediment.

OBSERVATION. *Fig.* 155.

I wou'd not have more than two Pediments placed over each other in the ſame Front of a Building: and even where there are two, it wou'd not be amiſs to have the one with a Sweep, and the other pointed or triangular; this laſt finiſhing the Front in manner of a Ridge.

OBSERVATION. *Fig.* 152.

We now uſe none of thoſe broken and interrupted Pediments which *Michael Angelo* introduced in his Time: Nor is there any body that ſeems to value 'em, but People of no Taſte or Experience.

Thoſe made of later Days, and which are ſupported by an Entablature truncated in the middle, as thoſe in the Court of the *Val de Grace*, were ſo maim'd to ſhew the Cypher of the Houſe. But theſe, too, are Corruptions in Architecture, which ought by all means to be avoided.

OB-

OBSERVATION.

Though the Pediment is bounded by its Tympanum and its Corniche, yet were it not for the Entablature underneath, it wou'd not only be ill ſupported, but imperfect too; juſt as a Ridge wou'd be, if the Rafters that compoſe it wanted Beams to prevent their flying aſunder.

The placing of two Pediments over one another, as is done in the old *Louvre*, is perfectly abſurd and ridiculous, though performed by an Architect of Reputation.

In ſome places we likewiſe ſee the Architrave interrupted and cut off between the two Columns, with Feſtoons in its place, which is a Deformity, though ſomewhat leſs conſiderable than the former.

REMARK.

Vitruvius thinks it juſt that all the parts rais'd above Columns and Pilaſters, that is, all that are above the Eye, as the Faces of the Architrave, the Frieze, the Tympanum of the Pediment, and the Acroteria with their Figures or Statues ſhou'd be inclined forwards, about a twelfth part of their height. And his reaſon for it is, that thoſe parts will by that means be the better expoſed to the view of ſuch Perſons as are placed below: but I think his advice ought here to be ſet aſide, as being built on a particular reaſon to the prejudice of a general Rule, which injoyns all the parts of a beautiful Building to be exactly perpendicular. Without this, they muſt needs have a woful Effect, when view'd ſidewiſe; on which occaſion they wou'd appear reeling and ready to tumble down. However, the Statuaries obſerve the Maxim of *Vitruvius* very judiciouſly with regard to their Figures, when they are placed ſufficiently high, and can only be view'd in Front, and from below.

Of NICHES. *Fig.* 153.

Niches are Hollows ſunk into the Wall, for the commodious and agreeable placing of Statues.

Their ordinary proportion is to have two Circles in height, and one in width; but I make their height ſomething more: The exceſs being to compenſate for the height of the Plinth or Pedeſtal of the Statue; as is ſhewn in the Figures *A* and *B*.

REMARKS.

The Hollow is Semicircular at bottom, that is in its Plan; at top it terminates in a kind of Canopy *or Cul de four*, as is ſeen in Figure *C*.

Niches have frequently an Impoſt, and an Archivolt or Head-band, and their Canopy wrought and enrich'd in manner of a Shell. See Fig. *D* of the ſame Plate.

The breadth of the Archivolt may be made equal to a ſixth or ſeventh part of the Aperture of the Niche;

and the height of the Impoſt to a fifth or ſixth part of the ſame.

The Impoſt and Archivolt ought to conſiſt of ſuch Mouldings as have ſome relation to the Architecture of the Place.

OBSERVATION. *Fig.* 154.

When a Niche is placed underneath an Impoſt, between two Columns or Pilaſters, as in this Figure; it ſhou'd have no Impoſt of its own: for two Impoſts over each other wou'd have a woful Effect; beſides that the Pedeſtals, in this Caſe, having their Baſes and Corniches, there wou'd be too many Mouldings over one another.

OBSERVATION. *Same Fig.*

There muſt no Niche be made between two Pilaſters, if they ben't a-part nearly one third of their height; otherwiſe we ſhou'd have Niches too ſcanty and narrow.

Care muſt alſo be taken, that they be not too big; leſt by that means the Architecture be made to appear little and pittiful: Thus from the largeneſs, for inſtance, of this Niche one is led to judge that the Architecture is only intended for a Chappel or other Building of an ordinary ſize.

OBSERVATION.

Niches ſhou'd be placed at the height of the Pedeſtals of the Columns or Pilaſters that accompany them.

OB-

OBSERVATION.

When Niches are placed underneath Impoſts, as in this Figure; the opening of the Arches ſhou'd be ſomewhat narrower than ordinary, that the Impoſt being on that account a little higher, the Niches may become of a moderate bigneſs: For this reaſon, inſtead of twelve Modillions between the Pilaſters, I only here make eleven, that is, I retrench one Modillion from the Corniche, that the Pilaſters may approach each other equally.

OBSERVATION. *Fig.* 155.

When the Columns have no Pedeſtals, a Niche may be rais'd higher than their Baſe; and in that caſe a Table or Pannel may be placed underneath.

OBSERVATION. *Same Fig.*

If it happen that a Niche with an Impoſt be placed between two Pilaſters, without any Portico, as in this Figure; it ſhou'd be made with a Retreat or Fall, backwards, to prevent the neceſſity of continuing its Impoſt between the Pilaſters. For that Impoſt being proportioned to the Niche, cannot be in proportion to the Pilaſters. Beſides, without this Expedient I don't readily ſee how it cou'd be well terminated on the ſide of the Gate.

We ſometimes ſee Niches that are made ſquare, but theſe want all the Beauty of the others.

OBSERVATION. *Fig.* 156.

If the Order of Column or Pilaſter ſhou'd be ſo very big and high, as that by following the Deſign of the preceeding Plate, the Niche wou'd become too large and unſizeable, the Pilaſters muſt be brought a Modillion or two nearer each other; and inſtead of a Niche with a Retreat, one may make a Niche with a Chambranle and a Corniche, crown'd with a Pediment, over which may be an Oval Light of the ſame width with the Niche.

Of STATUES. *Fig.* 124.

A Figure or Statue, rais'd over an Order or Building, may have its height equal to one third of that of the Column, or to four ninths thereof, if the Statue have no Niches. *Fig.* 155. If it be bigger, it will make the Building appear little; and if it be leſs, for inſtance only a fourth or a little more, the Building will appear by much the larger; as may be obſerved from Figure 156.

OBSERVATION *on the Size of* STATUES.

'Tis obſervable, that in proportion as a Statue is rais'd above the Eye, it appears to diminiſh in Bulk, 'till ſuch time as being elevated to a very great pitch, it becomes almoſt imperceptible. For this reaſon, ſome Architects contend that the Sculptor muſt always accommodate his Figures to their height, and increaſe their bigneſs juſt as their Elevation increaſes, to the end that they may always appear of a reaſonable Size. But as the Orders of Columns are to be diminiſh'd in proportion as they riſe over one another, it wou'd happen that the Statues in this caſe wou'd become too big for the Orders.

There need not therefore be any Difficulty made with regard to what the Architect is to do on this occaſion. He muſt always proportion his Figures to the Orders, and the Stories where they are to be placed; unleſs it happen to be in a cloſe narrow place, as in a Stair-Caſe or Dôme, for in that Caſe the Orders and the Statues may be enlarged in proportion. However care muſt be taken not to run into exceſs, it being better they ſhou'd appear too little than too big.

OBSERVATION.

Inſtead of placing Statues to finiſh the uppermoſt Stories, one may have Vaſes, Torches, Pots of Incenſe, Trophies, and the like Ornaments; which will ſuit better with ſuch Places than human Figures; unleſs thoſe repreſent the Tutelary Angels appointed for the Guard and Protection of the Building.

OBSERVATION. *Fig.* 155.

Figures placed in Niches ſhou'd have their Eyes at the height of the Sweep, or in the Diameter of the Arch.

OBSERVATION.

'Tis uſual to add little Plinths or Zocles for Baſes, to theſe Figures: but when the Niches are of the biggeſt, ſo as the Figures wou'd appear too Gigantic, if having their Eyes in the Centre of the Sweep, they ſhou'd reach to the bottom, abating the height of a little Plinth under their Feet; in that Caſe, they may be rais'd on a moderate Pedeſtal, as in this Figure 155. But on the other hand, care muſt be taken that theſe Pedeſtals be not too high, and the Figures too little, with regard to the Niche, it being a great Eye ſore to ſee a little Figure in a big Niche. On ſuch an Occaſion, I imagine the Pedeſtal may have a fifth part of the height of the Figure; if it have more, the Figure will be too little.

OBSERVATION. *Fig.* 156.

When Figures are placed in Niches by way of Ornaments to the Portail or Frontiſpiece, there ſeems no neceſſity to have any above the Entablature; but in their ſtead one may have Vaſes or other Ornaments, which will have nearly the ſame Effect: For, thoſe Figures in Niches being frequently required to be bigger than thoſe placed over the Entablature, ſuch an Inequality of Figures in the ſame Frontiſpiece, might be diſpleaſing to ſome People.

Of PYRAMIDS.

Pyramids are a kind of Monuments proper for tranſmitting the Memory of great Princes to Poſterity. They may be adorn'd with Trophies of War, with Statues and Baſſo Relievo's, to repreſent their memorable Actions, their Victories, Virtues, Power, and the Enemies they ſubdued.

A Pyramid can't be better ſituate than in the middle of a large *Place* or Square, where it may be ſeen on all ſides, and at different heights without Interruption.

It ſhou'd be rais'd to ſuch a height as may ſet it above all the Buildings that encompaſs it; ſo as it may be view'd out of the Country, and be a noble Ornament to the City where it is rais'd.

The Pyramid is always eſteem'd a Symbol of the Glory of Princes; for this reaſon it muſt be made ſo much the more magnificent, as the Prince for whom 'tis deſign'd has been more eminent for Virtue and Power.

Further, a Pyramid ſhou'd always be ſingle, or alone; otherwiſe it loſes its proper Signification, which is to repreſent the Glory of the Prince who Reigns, or has Reign'd.

◆

A

A
TREATISE
OF
ARCHITECTURE.

SECTION VII.

Of BALUSTERS *and* BALUSTRADES, *and of* BALCONIES, *and* PERRONS *or* ASCENTS.

Of Baluſters *and* Baluſtrades.

Fig. 157.

BAluſters or Baliſters, are a kind of little Pillars join'd by a Rail, at a convenient height for the Elbows to reſt upon. Of theſe I propoſe various Forms accommodated to the various Orders of Architecture where Baluſtrades may be uſed.

By Baluſtrade we mean a Series or Row of Baluſters with their Rail, ſerving as a Tablette or Reſt to the Elbows, and at the ſame time for a Fence or Incloſure to Altars, Balconies, Terraſſes, Water-Works, Stair-Caſes, and large Windows.

Baluſtrades conſiſt of one or more Ranges or Rows of Baluſters, terminated by Pedeſtals of the ſame height.

If in a Stone or Marble Baluſtrade, the diſtance from one Pedeſtal to another be too great for a Tablette or Rail of a ſingle Stone, it muſt be made of two; in which Caſe 'twill be proper to have the Joncture or Aſſemblage ſupported by a Die, mark'd *D B*, if a Baluſter be judged too weak to ſuſtain them.

The Ranges, in my opinion, ought to terminate in half Baluſters joyn'd to the Pedeſtals; though there are other Architects of another Sentiment. However, every Man may follow his own Inclination. I here give Inſtances of each kind.

We have Baluſters of various Figures, but the round and the ſquare ſhou'd always have the Preference. *See Fig.* 158, and 159.

Every Baluſtrade ſhou'd have a Zocle. *Palladio* indeed, gives us an inſtance of the contrary, in his *Egyptian* Hall, p. 110. but this is not to be imitated.

Round Baluſters are not ſo heavy as the ſquare ones: they are frequently made of very hard Stone, as that of *Lions*, which works better than any other kind of Stone, except Marble.

Fig. 159.

A. Tablette, Rail, or Reſt.
B. Abacus.
C. Cincture or Orlo.
D. Aſtragal.
E. Ball of the Baluſter
F. Gaudrons of the Ball.
G. Aſtragal.
H. Baſe.
I. Plinth.
L. Zocle or Foot.

Fig. 160.

When 'tis deſired to have a Baluſtrade richer and more delicate than ordinary, ſuch as we ſometimes ſee before Altars, it may be caſt of Braſs or Silver; unleſs to ſave Expences, it be thought better to have it of Wood guilded; For ſuch kind of Baluſtrades may be made as rich in Ornaments as one pleaſes: ſeveral Deſigns of this kind will be found in this Plate; and thoſe, who have a Taſte for ſuch Things, will find no difficulty in compoſing infinite others.

All Baluſtrades, being intended to be Breaſt-high, ſhou'd none ever exceed three Foot and a quarter at the moſt, nor come ſhort of two Foot and a quarter at the leaſt: the Meaſures for this to be taken from the Royal *Paris* Foot, * which is the ſame throughout the Kingdom, and does not vary like the Module, which is of various Dimenſions.

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* N. B. The *Paris* Foot here referred to, is to the *Engliſh* Foot as 1068. to 1000.

A B a Scale of three Feet, whereon the parts of theſe Baluſters may be meaſured.

OBSERVATION. *Fig.* 161.

In Baluſtrades of Stair-Caſes, the Zocle ſhou'd always be the height of the Steps: and the Baluſtrade terminates much better with a Pedeſtal on the Ground, as in this Figure, than with a Pedeſtal on the Deſcent, as in Fig. 157.

OBSERVATION.

Whether the Pedeſtal be on the Deſcent or not, it muſt always have a Buttreſs in manner of a Conſole to ſuſtain and bear up againſt the Preſſure of the Baluſtrade.

OBSERVATION.

In Baluſtrades that are between Pedeſtals, without either Baſes or Corniches, of which I give Inſtances in Figures 126, and 131; The Tablette ſhou'd only conſiſt of a Plat-Band, ſuſtain'd by a Fillet or little Talon underneath, and the Zocle may have a little Cavetto over it.

OBSERVATION. *Fig.* 162.

When a Baluſtrade is independant, one may proportion its Pedeſtals to its Baluſters, of which I have given ſeveral Inſtances: but when it is uſed in Orders of Columns, whereon it has ſome Dependence, the Pedeſtals in that caſe can't be manag'd at pleaſure.

Fig. 162.

If the Pedeſtals that terminate a Baluſtrade be compleat, and well proportioned to the Pillars which they ſupport, their Corniches will be found too weak to be continued alone, and ſo to ſerve for a Tablette to the Baluſtrade. 'Twill be neceſſary, therefore, to add a Plat-Band underneath; which will make a Symmetry with that round the Table or Pannel of the Pedeſtal, as in the Figure mark'd *A.*

Fig. 163.

Inſtead of Baluſters, we ſometimes make Entrelas of Crail'd Work, which are not inferior to the others in Beauty. Of theſe I propoſe various Deſigns in this Plate; and every body is at liberty to imagine as many more as he pleaſes.

One might enrich theſe yet further, by making the Wreaths, Roſes, and Foliages of Braſs; which wou'd do ſtill infinitely better if they were gilt.

OB-

OBSERVATION.

Theſe Entrelas ſhou'd be made more or leſs delicate according to the places where they are to be uſed. For inſtance, thoſe that are to be placed a-top of a Building, and which can only be view'd from a-far, ſhou'd be leſs delicate than thoſe that are to be view'd near at hand.

Of BALCONIES. *Fig.* 164.

A Balcony is a little ſlight Terraſs, ſtanding out from the Body or Naked of a Building; where one may take the Air, and eaſily obſerve what paſſes underneath.

Its parts are the Terraſs, the Baluſtrade that incloſes it, and the Conſoles that ſupport it: or, to explain my ſelf more accurately, a Balcony is a piece of Architecture rais'd in the Air, inclos'd with a Baluſtrade, and ſupported by a little Entablature; whereof the Corniche or uppermoſt part makes a Terraſs: The Frieze and Architrave being only continued at the Bottom and Sides; and the whole Balcony further ſupported by Conſoles, as is ſhewn in this Figure.

REMARK.

The Frieze is made with a little Sweep, that the Zocle of the Pedeſtal above may not appear ill ſupported, and that the Conſole, coming to contract or ſtraiten it ſelf at bottom, may do it the more gracefully; without which it wou'd appear too heavy.

The height of the Conſoles may be equal to their Projecture, but 'twill be an addition both to the Beauty and Strength of the Work if they be made higher.

OBSERVATION.

A Balcony may be continued quite through the *Facade* of a Building, by adding Conſoles from Space to Space; to be diſpoſed between the Windows, which will be underneath.

A. A Balcony of Stone, viewed in Front.
B. A Balcony of Stone view'd Sidewiſe.
C. The Section of the ſame Balcony.

OBSERVATION. *Same Fig.*

Balconies of Iron will do much better than thoſe of Stone, as being lighter and leſs ſubject to Decay: If they be gilt, they will be exceedingly magnificent, and a very proper Ornament for a Palace.

D E F, Balconies of Iron.

Fig. 155.

Of PERRONS *or* ASCENTS.

By Perron we mean an Aſcent or Elevation given to the Entrance of a Building. The Portail or Frontiſpiece of a Church, Palace, or any other great Building, ſhou'd always have a Riſe of ſome Steps, that is, in a Word, it ought to have a Perron.

OBSERVATION.

The Reſt or Landing-place of a Perron ſhou'd always be extended in Width as far as the Frontiſpiece, if poſſible; and the Steps, according to *Vitruvius*, muſt ever be an odd number.

OBSERVATION.

Theſe Steps ſhou'd always be 5 or 6 Inches in height, and 10 or 12 in breadth; that is, their breadth muſt be double their height; which is found the beſt Proportion to have an eaſy and commodious Aſcent.

OBSERVATION. *Fig.* 155.

Where the Perron is 13 or 15 Steps high, 'tis neceſſary, at leaſt 'tis convenient, to interrupt its Range with one or two Landing-places, that there mayn't be too many Steps to mount ſucceſſively, and that the Eye may not be diſpleas'd in deſcending ſo great a height without Reſts. See, in this Figure, the Perron interrupted with two Landing-places, according to the Diſpoſition of the Parts of the Frontiſpiece.

OBSERVATION.

A Perron ſhou'd always be confin'd to the height of the *Zocle* or Foot of the whole Building.

OBSERVATION.

Though this Zocle or Foot ſerve as a continued Pedeſtal; yet it muſt neither have a Baſe nor Corniche when its height is taken up by a Perron; and I can't at all agree with *Palladio* in the Examples he has given us to the contrary.

Sometimes the place does not allow a Perron to be extended ſo far as one wou'd otherwiſe wiſh, in which caſe it muſt be reduced as conveniently as may be, to the little Space allotted for it. *See Fig.* 165.

Some particular Obſervations. Fig. 165.

REMARK.

When 'tis required to have an Order of Columns or Pilaſters placed in a Second Story; the Firſt Story may be Ruſtic, and its Arches in Boſſage, which will not only add to its Solidity and Strength, but to its graceful Appearance.

REMARK. *Same Fig.*

If the Firſt Story be a Ruſtic Order, the Order of Columns or Pilaſters rais'd over it may be made higher; that is, its height may exceed that of the Ruſtic Order; which in this Caſe only ſerves it as a ſtand or Foot.

OBSERVATION. *Same Fig.*

When the Body of a Building is to be rais'd higher than the Alæ or Wings that accompany it; 'tis not neceſſary for that purpoſe, that the firſt or loweſt Order of the Body ſhou'd be taller than that of the Wings, but that of the Wings may be continued throughout, and the Elevation of the main Body above theſe may be left to a ſecond Order, and even if it be neceſſary, to a third.

OBSERVATION.

For the Third Story one may uſe an *Attic* Order; as in the ſame Figure.

OB-

OBSERVATION. *Fig.* 165.

We have already obſerv'd that on ſome Occaſions, one may make two Stories in the height of the ſame Order. Figure 147. And in this Figure 165. I propoſe another inſtance with Round or Oval Lights, which will make a very beautiful Diverſity with the larger Windows.

Theſe round Lights over the Windows, ſerving to illumine the Mezzanines or Half Stories, may alſo ſerve to raiſe the Light of a large Sallon in the middle of a Building.

Fig. 166.

One might alſo make two Stories in the height of the ſame Order of Pilaſters, by placing the Maſter-Story a-top, and that of the Offices and Domeſticks underneath; but this laſt, with ſimple unadorned Windows: and yet the whole be conducted in a noble and graceful Manner.

OBSERVATION.

In ſuch kind of Ordonnances, I wou'd never chuſe to continue any Mouldings quite to the Pilaſters; excepting the Zocle of the whole Building.

The Body of the Building may be of Brick where this is in Uſe: and the Architecture, or Orders of a beauful white Stone, which will make the moſt agreeable Facade of Building imaginable.

Of the Diſtribution of ORNAMENTS *on the grand* PARTS. *Fig.* 167.

The Ornaments ſhou'd be diſtributed in ſuch manner, as that they may always be ſuſtain'd by ſimple uniform Parts, to ſerve as Foils to ſet 'em off. I mean the parts that are ſimple and plain ſhou'd always be ſo diſpoſed as to be a Reſt or Repoſe to the Parts that are adorn'd. For inſtance, if the Vault of a Church be full of Ornaments, the Principal or Projecting Arches ſhou'd be plain; if the Vault be plain, the Arches muſt be enrich'd: with this Reſtriction, that the Compoſition of the place be ſuch as that Ornaments may be ſuitable.

If 'tis deſired to have a great deal of Richneſs and Ornament; I mean, if the place happens to require Ornaments both in the projecting Arches, and in the Compartiments incloſed between 'em; 'twill be neceſſary, however, that the Arches and Compartiments of the Vault be border'd with pretty broad but plain Liſts, in order to make a Separation, and to prevent thoſe parts from being blended and confounded together.

OBSERVATION. *Same Fig.*

When the Projecting Arches of a Vault have no Ornaments, the Columns or Pilaſters that ſupport them ſhou'd have no Flutings: And if the Columns or Pilaſters be Fluted, the Arches ſhou'd be Enrich'd, as alſo the Frieze of the Entablature: at leaſt this is my opinion; tho' we find it otherwiſe practiced in the *Val de Grace.*

OB-

OBSERVATION.

It may be obſerv'd that the Zocle *A B*, which is here over the Entablature, cannot be ſeen from below, yet is it of ſome uſe, to have the whole Sweep of the Vaulted Roof in Sight; part whereof without ſuch a Riſe wou'd be hid behind the Projecture of the Corniche, which wou'd be a conſiderable Defect: the great Beauty of the Vault of a Church, and that whereon its Effect principally depends, conſiſting in its appearing rais'd, as much as poſſible, with a full Sweep.

OBSERVATION. *Same Fig.*

Each Pilaſter in the Vault of a Church ſhou'd have a Projecting Arch anſwering to it, which Arch ſhou'd be of the ſame Breadth, and the ſame Projecture or Thickneſs with the Pilaſter that ſuſtains it.

OBSERVATION. *Fig.* 168.

In a Lodgment or piece of Building that receives the Light under a Portico, and whoſe Windows have a Reſt or Support for the Breaſt; the Columns or Pilaſters ſhou'd have Pedeſtals of the ſame height with thoſe Reſts, or to ſpeak more properly, thoſe Pedeſtals ſhou'd be continued ſo as to form Reſts or Leaning-Places for the Windows, as in the Figures *A* and *B*: otherwiſe the Columns and Pilaſters ſhou'd not have any Connexion with the Pedeſtals as is ſhewn in Fig. *C*.

OB-

OBSERVATION.

If the Windows have no Reſts, but reach down to the Pavement; the Columns and Pilaſters will do much better without Pedeſtals than with them. *See Fig. D.* of the ſame Plate.

It may here be obſerv'd that an Order of Columns or Pilaſters, which only takes up one Story in height, makes but a mean piece of Architecture, when the Windows are of a bigneſs ſuitable to the Apartments.

OBSERVATION.

An Order of Pilaſters uſed in an Apartment ſhou'd have a continued Pedeſtal, equal in height to the Reſts of the Windows; the Corniche of which Pedeſtal ſhou'd be flat, and without any Larmier.

OBSERVATION.

In ſuch places where the Pedeſtals are required to be higher, as in Churches, large Sallons, Halls, *&c.* they muſt be at leaſt ſix or ſeven Foot high, that their Corniche may not ſtand directly out againſt the Eyes of thoſe who may have occaſion to come near.

OBSERVATION.

A Pedeſtal rais'd above the Eye muſt never have a flat Corniche; I mean a Corniche that is to be view'd from below, ſhou'd always be adorn'd with its Larmier; which on ſuch an Occaſion makes its chief Beauty; whereas it only ſerves to weaken and ſpoil the Effect of the Corniche, where that Corniche can only be view'd from above.

OBSERVATION.

Coupled Columns ſhou'd, ordinarily, have but one and the ſame Pedeſtal; and the principal reaſon is, that theſe Columns requiring to be as near one another as poſſible, it frequently happens they can't be ſo well diſtinguiſh'd from each other, but that their Baſes and Corniches will be confounded together, which muſt needs have a miſerable Effect, that by all means ought to be avoided: To which it may likewiſe be added, that the two Pedeſtals being brought into one, the Columns will be the more firmly fix'd.

If it ſhou'd happen, however, that two Coupled Columns be found far enough a-part to prevent any Confuſion of the Corniches or Baſes of their Pedeſtals, each Column may have its ſeparate Pedeſtal; and this, on ſome occaſions, is neceſſary; as for inſtance, when two Columns are rais'd upon two others: for in that Caſe, 'tis prudence to make the Pedeſtals as light as poſſible: and yet they will ſtill compoſe a kind of continued Pedeſtal, by means of the Rail or Baluſtrade which connects them together. *See Fig.* 127.

It may be obſerv'd, that I here only ſpeak of Pedeſtals that are compleat; for when two Columns have only a Zocle for a Pedeſtal, 'twill always be beſt to have it undivided as in Figures 128, 129, 131.

REMARK. *Fig.* 169.

To conclude, the general Rules which we have propoſed for Pedeſtals, cannot be obſerved on all occaſions; it being frequently neceſſary to vary their Heights and Breadths, to accommodate them to the Parts that encompaſs them. For inſtance, the Pedeſtal *A*, ſhou'd be as broad as both the Baſes of the Pilaſters it ſupports; whereas the Die of the Pedeſtal *B*, ſhou'd only be the breadth of the Pilaſters that ſupport it.

It may alſo be obſerv'd, that the width of the hind Pedeſtal *E F*, is equal to that of the hind Pillar *G U*. That the Baluſtrade *E I*, does not exceed the width of the opening *G K* underneath: ſo that Maſſive is found over Maſſive, and Void under Void; or at leaſt nothing very heavy is ſupported by any thing very weak.

That the Parts which enter the COMPOSITION *of a* BUILDING *ſhou'd be made for one another.*

In raiſing any Edifice, as for inſtance, a Church, regard muſt be had to the Joynery that is to be uſed in it: and care taken, that all the parts of the Architecture, whether they belong to the Joynery or Maſonry, may appear as if they were the Work of the ſame Undertaker. Without this Precaution, a Man will ſcarce do any thing that is tolerably conſiſtent; as we find frequently the Caſe when the Architect, and Joyner follow each their particular Humours and Inclinations. Can any thing, for inſtance, be more ridiculous, than to ſee the Baſes of grand Orders of Columns or Pilaſters covered with Seats and Confeſſionals? or to ſee the Tops of ſeveral large Pilaſters appearing over ſome little Baluſtrade or Gallery? 'Tis in vain to urge that theſe are magnificent Seats and Confeſſionals, and that the Gallery is a Maſter-piece of Art. No body diſallows all this; but the misfortune lies here, that theſe Works, beautiful as they are, are ill plac'd, and are found to hide others more beautiful than themſelves.

Seats, and even Chapels or Oratories, may be contrived at the Foot of a large Order, as appears in this Figure, where there is likewiſe room for a Gallery, and a Choir of Muſick to be placed with advantage.

In the Churches of Religious, the Choir may be ſeparated from the Nave, in ſuch manner as that the Architecture of the one ſhall have no Dependance on that of the other; an inſtance whereof we have in the Church of the Prieſts, of the Oratory in the *Rue-Saint-Honore*. And in this Caſe the Seats of the Religious may make the Architecture of the Choir, and the Orders of Columns and Pilaſters the Architecture of the Nave.

As to Confeſſionals, they may be placed between the Chapels, or even in the Chapels themſelves.

OBSERVATION. *Fig.* 172,

Galleries made entirely open, and placed over one another in the height of ſome one grand Order of Columns, whereof we have ſeveral Inſtances in *Palladio*, ought not to be imitated. *See Fig. A* in this Plate.

OBSERVATION.

Care muſt be taken to avoid the making a Baluſtrade between Columns or Pilaſters, without Pedeſtals; in regard the Apparatus and Diſpoſition neceſſary for a Baluſtrade is there wanting. *See Fig. B* of the ſame Plate.

OBSERVATION.

Two Ordonnances of Architecture ſhou'd never be placed within one another, a little one within a great one, with deſign only to compoſe a ſingle one; as we ſee done in many places. *See Fig. C.*

OBSERVATION.

Columns of different Bigneſſes and different Orders, ſhou'd never be placed by the ſide of one another, for they can't chuſe but make a very unpleaſing Diſcord, *See Fig. D,*

OBSERVATION. *Fig.* 156.

When one wou'd add any piece of Architecture, as a Pavillion or Turret for inſtance, to a Building already made; it muſt be remembred, that it be made of ſome other Order. Care muſt likewiſe be taken that the Additional Piece may appear to have been directed by the ſame Architect who had the Management of the reſt of the Building. In a word, all Endeavours muſt be uſed to make the part conformable to the whole.

OBSERVATION.

I wou'd never have any Order of Columns painted on a flat Ceiling, much leſs on a Vaulted Roof; in regard, for one little Spot or Point of View whence ſuch a piece of Architecture wou'd have its Effect; there are a thouſand others whence it wou'd appear deform'd, and monſtrouſly out of the perpendicular, unleſs the Vault be very high, and very narrow too, as the CALOTTE or **Top** of a Dôme.

OBSERVATION.

An Intelligent Architect will never allow ſuch elevated Places to be painted with pieces of Hiſtory, or other Matters relating to our Earth; where ſuch Subjects muſt be extreamly unſuitable. If it be the Dôme of a Church, he may paint the Heavens open, a Glory, an Aſcenſion, ſome Saint carried up by Angels:

gels: in a word, ſome Subject that relates to Heaven. He may indeed, introduce People at the bottom, leaning over a Balluſtrade, and viewing attentively what paſſes above.

When an Architect is not provided of an able Painter fit to manage a Work of this kind, he had better content himſelf with fine Compartiments, which may be made extreamly rich, and will be infinitely more ornamental than a Hiſtory Piece ill conducted.

A New COMPOSITION *of a* FRENCH ORDER. *Fig.* 173.

I Give this Order as great a ſhare of Delicacy, Richneſs and Elegancy as I cou'd conceive practicable, without running into Exceſs.

The height of the Column is 20 Modules 5 Minutes, that of the Pedeſtal 6 Modules 22 Minutes, and that of the Entablature 4 Modules and 15 Minutes: ſo that the Pedeſtal is about one third of the height of the Column, and the Entablature 16 Minutes leſs than a fourth; the entire Order making 31 Modules 12 Minutes.

The Ornaments of the Capital are three *Flower-de-Luces* on each ſide, with *Palms*, and the Badge of *France*, viz. a *Cock*; Arms underneath, and a Lyre in the Shade of the Palms under each Horn of the *Abacus*, which are ſo many Symbolical Ornaments, that Perſons of underſtanding will conceive without any Difficulty.

Crowns make the Ornament of its Frieze with a Sun ſhining in the middle; whence it will be eaſily apprehended that this Order is conſecrated to the Glory of the *Grand Monarch*.

This Order, in the Execution, will have the nobleſt, the moſt beautiful and agreeable Effect imaginable: I have made a little Model of it in Relievo, which I never ſee without Pleaſure.

For what remains; it was my Deſign to have cloſed this Work with the Plans, Elevations and Sections of ſeveral Buildings; but a Weakneſs of Sight, having ſeized ſuddenly on me, prevents my proceeding any further.

FINIS.

ERRATA.

IN the Preface, *p*: vi. *l.* 11. *after* Terms, *add* a Comma. *p.* 16. *dèle* all. In the Book *p.* 3. *l.* 8, 9. *for* taſt every thing *r.* taſt in every, &c. *p.* 15. *l.* 14. *for* 24 Modules, *r.* 14. *p.* 16. *l.* 8. *for* 24 Modules *r.* 4 Modules. *p.* 19. *l.* ult. *for* a Quarter-round, *r.* the Quarter-round.